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NEWER ASPECTS OF THE RICKETS PROBLEM *

ALFRED F. HESS, M.D.

NEW YORK

There has been widespread interest in the etiology of rickets on the part of the clinician and the pathologist ever since Glisson and his committee in 1659 published their comprehensive report concerning its symptomatology and incidence. The interest has been sustained rather than active, as the theories regarding its etiology seemed hopelessly confused and were bewildering in their multiplicity. They have been based almost entirely on hypotheses or on general impressions gained by clinicians in the course of their medical practice. It is unnecessary to consider these various theories; suffice it to state that they have been all-embracing, incriminating errors of diet or of hygiene, faulty metabolism, inactivity of the endocrine glands, bacterial invasion, etc.

In the course of the last few years the status of rickets has changed—interest has become acute and activity intense, and advance in our knowledge promises to be greater during this decade than throughout the preceding 250 years. As the result of sudden accession of knowledge from various sources, we no longer are groping, but have been able to formulate sharply a few important questions susceptible of definite solution. The present may be said to constitute a new epoch in the history of rickets. This has come about primarily through an increased interest in nutrition and nutritional disorders, and as a logical sequel to the investigations of the vitamins and the so-called deficiency disorders. The analogy between rickets and scurvy, and the inclusion of the former among the avitamin disorders, naturally focused attention on it.

Until very recently, if we except the occasional experiment in which an animal was deprived of one or more of the inorganic salts, there had been no attempt to reproduce the disease in animals by means of controlled and restricted diets. The first serious and prolonged investigation of this kind was carried out by Mellanby. For these experiments he made use of dogs, and has published two interim reports of his work which has now extended over a period of five years.[1] Mellanby's work has been carried on and published under the egis of the Medical Research Council, which accepted his conclusions in its report on the Accessory Food Factors (Vitamines). Whether or not subsequent investigators corroborate this study, it constitutes a landmark in the experimental investigation of rickets from the dietary standpoint. More recently, the rat has been employed extensively as the experimental animal. Almost simultaneously, Sherman and Pappenheimer [2] and McCollum and his associates [3] devised standard diets which regularly led to rickets in this animal, and which by simple additions served to afford protection. This constituted a marked advance in the dietetic study of rickets, as it placed it for the first time under complete experimental control. Whereas the results in dogs were at all times conflicting or equivocal, in rats they proved to be constant. The rat had the additional advantage of being available in large numbers, susceptible of being bred from known stock, and characterized by a very rapid life cycle. Thousands of individual experiments have been carried out within the last year on this animal. This expansion of the scope of rickets investigations is certain to be of the greatest moment.

Another advance in the method of studying this disorder has been the use of the roentgen ray. Heretofore we have had to depend solely on clinical examination in diagnosing the presence of rickets, and there has been marked difference of opinion as to which signs should be regarded as pathognomonic. Today we also roentgenograph the epiphyseal ends of the long bones and obtain an objective criterion for diagnosis. It is of passing interest to observe that the possibility of employing the roentgen ray for this purpose was referred to repeatedly in the German and French literature without attracting attention in this country. Indeed, two monographs [4] on this subject were published in Germany as early as 1911.

A far broader interest in rickets has been stimulated by the realization that hygiene plays an important rôle in its causation. After years of discussion and disagreement, those who upheld the dietetic theory, as well as those who maintained the hygienic theory of origin, have been found to be right. It has been clearly demonstrated that rickets can be prevented or cured by means of light rays—either the artificial rays of the mercury vapor quartz lamp, or by sunlight. The fact that such dissimilar agents as diet and sunlight can both be of prime importance in connection with the origin and cure of a disease has not only tended to a broader conception of rickets, but also led to a larger point of

* Cutter Lecture, read at the Harvard Medical School, Boston, Feb. 15, 1922.

* From the Department of Pathology, Columbia University College of Physicians and Surgeons.

1. Mellanby, E.: Lancet **1**: 407 (March 15) 1919; **1**: 550, 604, 856, 1920.

2. Sherman, H. C., and Pappenheimer, A. W.: Experimental Rickets in Rats, I, A Diet Producing Rickets in White Rats, and Its Prevention by the Addition of an Inorganic Salt, J. Exper. Med. **34**: 189 (Aug.) 1921.

3. McCollum, E. V.; Simmonds, Nina; Shipley, P. G., and Park, E. A.: The Production of Rickets by Diets Low in Phosphorus and Fat-Soluble A, J. Biol. Chem. **47**: 507 (Aug.) 1921.

4. Fraenkel, E., and Lorey, A.: Archiv und Atlas der normalen und pathologischen Anatomie in typischen Roentgenbild, Hamburg, Lucas Graefe und Sillem, 1910. Wohlauer, F.: Atlas und Grundriss der Rachitis, München, J. F. Lehmann, 1911.

view of nutritional disorders in general—an attitude which undoubtedly will prove fruitful. It will be noted that the newer aspect of rickets has resulted from advances which emanated from the clinic as well as from the laboratory, and that as so often happens, decided progress has not been made at the point at which the greatest pressure was being exerted—in this instance, in the domain of metabolism.

Five years ago, in conjunction with Dr. Unger, I began a clinical study of rickets. For the first two years our investigations embraced field work, such as studies of the diet of the negro mother in New York City [5] and the effect of cod liver oil on the rachitic negro infant.[6] For the last three years we have been observing the occurrence of rickets among the infants in a large child-caring institution. The babies in this home have been fed the various standard milk formulas, composed of raw or pasteurized fluid milk, dried milk, condensed milk, etc.; a few received human milk. Rickets has occurred on every one of these diets—generally in a mild form—in spite of the fact that the general hygienic conditions are exceptionally good. The investigation was carried out systematically; every month a detailed physical examination of the infants was made, combined, for the last two years, with routine roentgenograms of the epiphyses at the wrists; in addition, careful records were kept of the weight, length and temperature of each child, as well as of its food intake and stools. In this way we have been able to note the earliest beginnings of rickets, to correlate its incidence with the diet, and to appraise the relative significance of various signs of this disorder and their response to treatment. In general, it may be stated that less rickets has been found to develop among these infants than among those attending the outpatient departments in New York City. It has been our experience that those babies are most likely to develop rickets who are admitted in a poorly nourished condition and who, subsequently, thrive and gain in weight. Almost 75 per cent. of our patients belonged to this category, whereas about 25 per cent. developed rickets while not progressing satisfactorily.

Concurrently with this clinical study, an investigation of rickets in rats has been carried out in conjunction with a group of workers who have attacked various phases of this problem. At all times an effort has been made to correlate clinical and laboratory observations, to use the data from one source to check those derived from the other.

Before discussing etiology, it will be necessary to consider briefly what is to be regarded as constituting rickets. At first thought this may seem an unnecessary refinement, but pediatricians are finding it increasingly difficult to define rickets satisfactorily—a difficulty which is becoming greater as our knowledge increases and broadens. I have referred to roentgen-ray diagnosis as one of the significant advances of the last few years. Without going into detail, it may be stated that as the result of an experience embracing more than 1,500 roentgenograms of the wrists, it has been found that this method, like almost all diagnostic procedures, has important limitations. In noting the effect of treatment, for example of cod liver oil or of sunlight, it is a most delicate and prompt indicator. But in furnishing information as to the earliest beginnings of rickets, the roentgen ray was found to lag behind clinical examination. At first this may impress one as most improbable. It should be borne in mind, however, that we have to compare the roentgenogram of the epiphyses of the ulna and radius with clinical changes noted not at the wrist, but at the costochondral junctions. In our experience, the rachitic rosary (enlargement of the costochondral junctions) frequently precedes roentgenographic changes in the ulna or the radius. It is quite possible that, could we bring into clear view costochondral junctions by means of the roentgen ray, lesions would be observed in these areas before they could be appreciated by palpation. By the time the roentgen ray demonstrates rachitic changes at the epiphyses, a well defined rosary is almost invariably present. These observations apply to the early manifestation of rickets; they are not applicable to infants who have been receiving an inadequate quota of the antiscorbutic vitamin, for there is a scorbutic as well as a rachitic rosary. Furthermore, beading of the ribs is not a satisfactory criterion of the healing process, for it may persist for a considerable period after the roentgen ray has demonstrated that lime salts are being taken up by the epiphyses.

It is unnecessary to discuss other signs of rickets, such as enlargement of the epiphyses, craniotabes, delayed eruption of the teeth, poor musculature or marked sweating, as they either are later symptoms or are unreliable. Recently Howland and Kramer [7] have reported that rickets is accompanied by a diminished percentage of inorganic phosphate in the blood. It is too early to judge of the value of this test for early diagnosis. Its significance will be referred to later in another connection. In discussing rickets as in scurvy, it should constantly be borne in mind that the majority of cases are latent and not discernible by our diagnostic methods. The statistics of Schmorl, based on routine histologic examinations, indicate that rickets occurs earlier than we can discover it by the various clinical methods at our disposal.

It is impossible in this brief survey to consider even the entire question of the etiology of rickets. It will be necessary, therefore, to select, from among its various aspects, those which at present seem most timely and have been the subject of recent investigations. I shall confine myself to a consideration of the rôle in the diet of vitamin A (the fat-soluble vitamin), the rôle of phosphate, and the influence of light.

One of the central points of interest at present is whether the fat-soluble vitamin, or a vitamin closely associated with it, should be regarded as the antirachitic vitamin, whether rickets should be considered a deficiency disease similar to scurvy and beriberi. As is well known, this vitamin is present in abundance in animal fats, such as cream, butter and eggs, as well as in the leafy vegetables. Its absence has been shown to bring about xerophthalmia or keratomalacia both in animals and in children. This question was raised a few years ago by the investigation of Mellanby to which reference has been made. As a result of experiments on dogs, Mellanby came to the conclusion that rickets was due mainly to a lack of the fat-soluble vitamin. In his recently published second interim report, he has modified his position to the extent of granting lack of exercise a place in the etiology. Mellanby's experiments have been repeated on a smaller

5. Hess, A. F., and Unger, L. J.: The Diet of the Negro Mother in New York City, J. A. M. A. **70**: 900 (March 30) 1918.
6. Hess, A. F., and Unger, L. J.: Prophylactic Therapy for Rickets in a Negro Community, J. A. M. A. **69**: 1583 (Nov. 10) 1917.
7. Howland, J., and Kramer, B.: Calcium and Phosphorus in the Serum in Relation to Rickets, Am. J. Dis. Child. **22**: 105 (Aug.) 1921.

scale by Paton, Findlay and Watson,[8] who also used dogs as the experimental animal but failed to corroborate his results. There have been many other series of animal experiments, to which reference will be made, but none making use of dogs for this purpose. Mellanby's work, apart from having been carefully carried out and adopted by the Medical Research Committee of Great Britain,[9] gains additional support from the fact that cod liver oil is at once the most potent antirachitic substance for infants and for animals, and contains the fat-soluble vitamin in greatest concentration. It may be stated, therefore, that this circumstantial evidence supports the contention that the two factors are identical.

About two years ago, Dr. Unger and myself considered this question. We attempted to show that babies, which had been carefully observed, developed rickets despite the fact that they received an abundance of milk, whereas others which received a diet low in fat-soluble vitamin did not develop signs of rickets.[10] It was pointed out also that metabolism studies did not favor the interpretation that rickets was due to a lack of milk, which is rich in this vitamin, for they repeatedly showed that negative calcium balances resulted when infants were given large amounts of whole milk. We therefore came to the conclusion that the fat-soluble vitamin is not the dominating factor in the development of rickets. It may be suggested that the milk may have been poor in its fat-soluble vitamin content, for, as is well known, the potency of milk in this respect depends on the fodder of the cows. Bearing this possibility in mind, the following winter we procured dried milk from pasture-fed cows instead of the ordinary dried milk, which, during this season, comes from stall-fed cows. This milk must have been particularly rich in fat-soluble vitamin, and should have protected the infants from rickets if this constituted the "antirachitic factor." As has been reported elsewhere, it was found that some of these infants developed rickets: that we had not been able to protect all the babies by supplying them with "summer milk" in the winter time.[11] In this connection, I may add that at the same time, the infant of a wetnurse, who was on a liberal diet including vegetables and at least one quart of milk a day, developed moderately severe rickets.

Almost all observations on the rôle of vitamin A are based on laboratory investigations; those on dogs have already been mentioned. About a year ago, Hess, McCann and Pappenheimer[12] studied the effect of a diet, almost totally lacking in fat-soluble vitamin, on the development of rickets in young rats. A test of this nature seemed of value in view of the fact that the rachitic bone lesions of this animal cannot be distinguished from those of infants, and that cod liver oil in very small amounts has also been found to be a specific both in the prevention and in the cure of this rickets. These experiments may be summarized by the statement that, in spite of the fact that a large series of young rats were maintained for months on a fat-soluble vitamin deficient diet, none developed rachitic lesions of the bones. Many, however, showed osteoporosis, and signs of lack of osteogenesis which should not be confused with the typical rachitic lesions of experimental animals. That these rats were truly suffering from lack of the fat-soluble vitamin was demonstrated by their eye lesions, which healed promptly on the addition of butter to the dietary; growth also failed and was at once stimulated by adding the fat-soluble factor to the dietary. These experiments recently have been corroborated by Shipley, McCollum and Simmonds,[13] who express the opinion that a diet lacking only in fat-soluble A brings about osteoporosis. An investigation of Korenchevsky[14] considers this subject from a somewhat different angle. As the result of an experiment carried out on a large series of rats, this investigation concludes that rickets is produced most readily and most frequently by a lack of the fat-soluble vitamin and of calcium, but that it is generally necessary to enforce these deficiencies for at least two generations. This is a point of view well worth bearing in mind.

There have been experiments in which other species of animals have been deprived of the fat-soluble vitamin; for example, Mackay[15] employed kittens for this purpose. Although the animals were found sensitive to this deficiency and manifested enlargement of the costochondral junctions, rickets did not develop. Tozer[16] carried out similar experiments on guinea-pigs, and also failed to produce rachitic lesions, bringing about merely atrophy of the marrow and lack of osteogenesis, as well as lesions described as resembling scurvy. Zilva, Golding and Drummond[17] used young pigs in their experiments, and likewise failed to produce rickets. Great weight cannot, however, be attached to these negative experiments, as they involve types of animals which have never been known to develop rickets under either natural or experimental conditions. As regards experiments on rats, on the other hand, the situation is quite different, as they are highly sensitive to rickets, having a susceptibility comparable to that of guinea-pigs to scurvy. Indeed, according to Mellanby's experiments it is difficult to produce rickets in dogs unless growth is maintained at a fairly normal rate, whereas in rats rickets can be regularly brought about while growth is at a standstill.

On weighing the evidence of clinical and laboratory investigations, we are led once more to the conclusion that, although the fat-soluble vitamin, or a vitamin closely associated with it, may play a rôle in the etiology of rickets, it does not play a dominant rôle. It has been shown by Zilva[18] that cod liver oil contains fully 150 times more of the fat-soluble factor than does butter,[19] and some have suggested, therefore, that the fat-soluble factor fails to prevent rickets in infants fed on milk because it is supplied in insufficient quantity. Granting that this explanation is correct, it would mean—if we consider a teaspoonful of cod liver oil

8. Paton, N.; Findlay, L., and Watson, A.: The Cause of Rickets, Brit. M. J. **2**: 625 (Dec.) 1918.

9. Hopkins, F. G., and Chick, H.: Report on the Present State of Knowledge Concerning Accessory Food Factors (Vitamines), Medical Research Committee Special Report, 1919, Series 38.

10. Hess, A. F., and Unger, L. J.: The Clinical Rôle of the Fat-Soluble Vitamin: Its Relation to Rickets, J. A. M. A. **74**: 217 (Jan. 24) 1920.

11. Hess, A. F., and Unger, L. J.: An Interpretation of the Seasonal Variation of Rickets, Am. J. Dis. Child. **22**: 186 (Aug.) 1921.

12. Hess, A. F.; McCann, G., and Pappenheimer, A. W.: Experimental Rickets in Rats, II, The Failure of Rats to Develop Rickets on a Diet Deficient in Vitamine A, J. Biol. Chem. **47**: 395 (July) 1921.

13. Shipley, P. G.; McCollum, E. V., and Simmonds, Nina: Studies in Experimental Rickets, IX, Lesions in the Bones of Rats Suffering from Uncomplicated Beriberi, J. Biol. Chem. **49**: 399 (Dec.) 1921.

14. Korenchevsky, V.: Experimental Rickets in Rats, Brit. M. J. **2**: 547 (Oct. 8) 1921.

15. Mackay, H. M.: Effect on Kittens of a Diet Deficient in Animal Fat, Biochem. J. **15**: 19, 1921.

16. Tozer, F. M.: Effect on the Guinea-Pig of Deprivation of Vitamine A and of the Antiscorbutic Factor, J. Path. & Bacteriol. **24**: 306 (July) 1921.

17. Zilva, S. S.; Golding, J.; Drummond, J. C., and Coward, K. H.: The Relation of the Fat-Soluble Factor to Rickets and Growth in Pigs, Biochem. J. **15**: 427, 1921.

18. Zilva, S. S., and Miura, M.: The Quantitative Estimation of the Fat-Soluble Factor, Biochem. J. **15**: 654, 1921.

19. It is probable that cod liver oil, like other unstandardized biologic products, should not be regarded as a fixed chemical or physiologic entity, but that its potency varies considerably.

sufficient to afford protection—that at least 5 quarts of milk would have to be consumed daily by an infant in order to provide an equivalent and adequate amount of this factor. It is evident that such reasoning furnishes an argument against, rather than in favor of the fat-soluble vitamin being the antirachitic factor, for, were the occurrence of rickets to depend on adequate vitamin being supplied in milk, all bottle-fed infants would be doomed to be rachitic.

I shall not consider the chemical aspect of this subject. It is premature to express an opinion as to the character of the potent factor in cod liver oil and in the animal fats. It is claimed by many that vitamin A is very susceptible to destruction by heat, especially when oxidation occurs simultaneously. In this connection, the recent work of Zucker and his associates [20] may be called to mind. These investigators succeeded in extracting from cod liver oil a substance almost 100 times as potent as the original oil, although in the course of the manipulations the oil was subjected to boiling many hours in an open vessel and in the presence of a strong alkali.

Numerous experiments, as stated, have shown that animals deprived of the fat-soluble vitamin develop osteoporosis of the bone. This lesion is associated with a retardation of growth in growing animals, and may bear a direct relationship to a deficiency of this vitamin. Undoubtedly, osteoporotic lesions have been regarded as rachitic, and herein lies one explanation for the difference in interpretation of the effect of inadequacies of diet. Another source of error has been the fact that until very recently no attention was paid to the amount of sunlight which the experimental animals received, whether they were housed in dark or in well lighted quarters. We now realize the importance of controlling the degree of light, and a perusal of the literature indicates that some of the inconsistent and discordant results may have been due to leaving this factor out of consideration.

THE RÔLE OF PHOSPHORUS

As regards the metabolism in infantile rickets, the greatest attention until recently has been focused on the calcium ion. It is true that the intake, excretion and balance of phosphorus have been considered in many studies, but with few exceptions this salt has been relegated to a secondary position. Now that animal experiments have brought a realization of the significance of phosphorus, it is difficult to understand why it had not been regarded as of equal importance to calcium in the nutrition of bone, for phosphorus forms one of the most important constituents of bone, and woman's milk as well as cow's milk contains it in high percentage. It is unnecessary to review in detail the experiments of the past year in relation to the rôle of phosphorus in experimental rickets. About a year ago, as has been stated, it was shown independently by two groups of investigators that rickets could be brought about without fail in rats by a diet adequate in calcium but deficient in phosphorus. The diet of Sherman and Pappenheimer contains 0.4 per cent.—about 86 mg. per hundred grams of diet—of phosphorus in the form of secondary potassium phosphate.[21] An addition of from 50 to 75 mg. per cent. of phosphorus is sufficient invariably to afford protection, to change the diet to a nonrickets producing food. So responsive is the rat to the amount of phosphorus in this diet that different degrees of rickets can be produced at will by varying the phosphorus intake. The rachitic lesions have been confirmed during life by roentgenograms of the epiphyses, and postmortem by histologic examination. Although osteoporosis developed frequently in spite of the addition of an adequate amount of phosphorus, rachitic lesions were in all instances absent.

Viewing these experiments in the light of clinical experience, it is evident that they cannot indicate—nor have they been so interpreted—that the development of rickets in infants is merely dependent on an adequate phosphorus supply. Unfortunately, data as to the phosphorus requirement of infants are inadequate to determine this question. The very fact, however, that woman's milk contains only about one-fifth as much phosphorus as cow's milk, and that rickets is of far less frequent occurrence among nursing than among bottle-fed babies, indicates that the phosphorus intake does not play the deciding rôle; even the extreme dilution of cow's milk by one-half does not reduce its phosphorus content to that of woman's milk. A review of diets on which rickets has developed fully bears out this conclusion. On estimating the phosphorus intake of infants who developed rickets on various standard diets, and comparing this intake with that of infants on similar diets who showed no signs of rickets, no distinction as to phosphorus or as to the calcium phosphorus ratio could be observed. It was found, moreover, that some infants developed rickets on dried milk, while others fed on milk of the same lot manifested no signs of rickets either clinically or by roentgen ray. It is evident, therefore, that the problem in infantile rickets is not so simple as might appear from investigations on rat rickets, in which the diet is reduced to simple components. It should be remembered that, in spite of years of clinical observation, no diet has been noted which leads to rickets in infants.

That phosphorus is an important factor in the rickets of infants, as well as in that of rats, follows from the observations, previously referred to, showing that the content of inorganic phosphate in the blood is generally low in infantile rickets.[7] Using the method of Doisy and Bell, the normal content of inorganic phosphate was found to be about 4.0 to 4.5 mg. per hundred cubic centimeters of blood, decreasing in the mild rickets which we observed to about 3 to 3.75 mg. per cent.[22] Since the preliminary work of last year, routine blood examinations have been carried out on infants who were receiving standard diets, in order to ascertain the relationship of blood phosphate to the early development of rickets as well as to diet.[23] I shall not enter into the details of this study, but it may be stated that, in general, it was found that clinical rickets may precede a decrease in the inorganic phosphate of the blood, but that the later roentgen-ray signs were accompanied usually by low blood phosphate; furthermore, that the blood of infants apparently free from rickets, according to all recognized signs and symptoms, may be low in inorganic phosphate. In other words, although the inorganic phosphate is generally lowered in rickets, there seems to be a factor unaccompanied by rickets which likewise determines its level. For example,

20. Zucker, T. F.; Pappenheimer, A. W., and Barnett, M.: Observations on Cod Liver Oil and Rickets, Proc. Soc. Exper. Biol. & Med., January, 1922, p. 1919.

21. The constitution of this diet (No. 84) is: patent flour, 95.0; calcium lactate, 2.9; sodium chlorid, 2.0, and ferric citrate, 0.1 per cent.

22. Hess, A. F., and Gutman, Margaret B.: The Cure of Infantile Rickets by Sunlight Accompanied by an Increase in the Inorganic Phosphate of the Blood, J. A. M. A. 78: 29 (Jan. 7) 1922.

23. As the use of oxalate in this test was found at times disturbing, it was discontinued and the blood was collected simply in paraffined tubes and then laked.

some infants who were receiving from 24 to 32 ounces (710 to 946 c.c.) a day of raw cow's milk had more than 4 mg. per cent. of inorganic phosphate in the blood, whereas some others receiving protein milk—and likewise showing no evidences of rickets—had a blood phosphate content of about 3.7 per cent. The difference in inorganic phosphate evidently was due to a difference in the nature of the food. Not that the latter furnished an inadequate amount of phosphorus, for analysis showed it to contain 0.104 per cent. phosphorus (as phosphoric acid), fully twice as much as human milk, but the form or association was such as to render it incompletely available. Until we know the factors which influence the absorption and retention of phosphorus, it will be impossible to judge the rôle of phosphorus in the various diets of infants. The work of Moll,[24] confirmed by others, showing that breast-fed infants excrete far less phosphorus in the urine than those which are bottle-fed, and, furthermore, that one of the earliest signs of intestinal indigestion is an increased excretion of phosphorus, indicates both the importance of the medium in which the phosphorus is supplied and the possibility of disturbing factors in the intermediary metabolism.

Experimental rickets in rats tends to confirm the conclusion that, although a low inorganic phosphate content of the blood generally accompanies rickets, this change does not necessarily indicate the presence of this disorder. Rats which are fed the standard rickets-producing diet, but which are protected from rickets by light rays—manifesting no rickets either by roentgen ray or on microscopic examination of the bones—have a lowered percentage of inorganic phosphate in their blood. Instead of 6 mg. or more of inorganic phosphate per hundred cubic centimeters of blood, they have about 4 mg. In other words, the blood reflects the deficiency of phosphate in the diet in spite of the protection afforded by light.

Animal experiments emphasized an aspect which has been disregarded in considering infantile rickets, namely, that the requirement of phosphorus (and probably of calcium as well) bears a direct and important relationship not only to body weight and to age but also to rate of growth. This does not refer merely to the theoretical growth of the age period, but to the rate which the animal manifests at the particular time. This may be illustrated by two sets of experiments. For example, whereas increasing the phosphorus to about 150 mg. per cent., in the diet which we have employed as a routine, suffices to protect rats from rickets, this amount fails to protect when the diet is so modified as to induce increased growth. To illustrate the reverse phenomenon, the occurrence of spontaneous healing may be cited. When rats are fed on the rigid rickets-producing diet (No. 84), spontaneous healing does not occur; but when 25 mg. per cent. of phosphorus is added, although the rats develop rickets, they will show spontaneous healing when their rate of growth is less rapid, and the demand for phosphorus is reduced (Table 1). Such experiments demonstrate that the phosphorus requirement of a growing individual is labile, that a supply which is adequate may shortly become inadequate, or, on the other hand, that a supply which is inadequate may be rendered adequate simply by a diminished rate of growth.

24. Moll, L.: Die klinische Bedeutung der Phosphorauscheidung im Harn beim Brustkind, Jahrb. f. Kinderh. **69**: 129, 304, 450, 1909.

THE FACTOR OF LIGHT

For centuries, physicians have discussed whether faulty diet or hygiene is the etiologic factor in rickets. The pendulum has swung first in one direction and then in the other, swayed by the authority and prestige of individuals rather than by objective evidence. Not many years ago, the popular theory was that of Kassowitz, who believed that rickets is due to breathing the noxious gases of badly ventilated rooms. More recently the rôle of hygiene has been regarded as almost negligible, and diet as all important, owing to the realization of the significance of diet in nutrition and following the report of Mellanby and its wide acceptance by investigators and by the medical profession. A notable exception in this regard has been the unswerving contention of Findlay[25] that faulty hygiene—an inadequate supply of fresh air and exercise—is the dominant factor. Today, the influence of hygiene in the etiology of rickets is firmly established, and, although comprising possibly several elements, has been shown to be identified largely with an adequate supply of sunlight. It is true that this conception is not new. It has been mentioned from time to

TABLE 1.—SPONTANEOUS HEALING OF RICKETS IN RATS

Wt., Gm.	Diet	Roentgen-Ray Diagnosis 18 Days	32 Days	48 Days	62 Days	72 Days	Path.	Inorg. P.
44-50	84*	.....	R.	Marked R.	Marked R.	.....	Marked R.	
48-60	84*	R.	Marked R.	Very Marked R.	.....	Marked R.	Marked R.	2.35
40-50	84*	R.	Marked R.	Very Marked R.	.....	+	R. R.	
36-50	84 + 25 mg. P. (K_2HPO_4)	Sl. R.	Mod. R.	Neg.	.....	Healed	Neg.	3.46
40-50	84 + 25 mg. P. (K_2HPO_4)	R.	Mod. R.	Healing	.....	Healed	Neg.	3.0
38-60	84 + 25 mg. P. (K_2HPO_4)	Sl. R.	Sl. R.	Healing	.....	Healed	Neg.	3.75
40-54	84 + 25 mg. P. (K_2HPO_4)	Sl. R.	Mod. R.	Healing	.....	Healed	Neg.	

* Rachitic diet.

time by various writers, and some years ago was stressed particularly by Palm;[26] but heretofore the evidence was merely suggestive and the possibility was ever present that diet might have been involved. Recently, Huldschinsky[27] has shown that infantile rickets can be cured by the rays of the mercury vapor quartz lamp. As stated elsewhere, Unger and myself made use of these rays in 1918 for this purpose, but failed to obtain definite results, as the healing process could not be followed by means of roentgenograms.[9] For the past year we have employed direct sunlight as a therapeutic measure, and have found it most efficacious.[28] It would lead too far afield to discuss the use of heliotherapy in rickets; suffice it to state that the rays must impinge directly on the skin, and that the curative effect has been demonstrated by clinical examination, by roentgenograms of the epiphyses, and by an increase in the inorganic phosphate of the blood. It is a systemic measure and not a local one, affecting tissues which have not been exposed to the rays, just as chlorophyl develops in the parts of plants which lie

25. Findlay, L.: Diet as a Factor in the Cause of Rickets, Arch. Pediat. **38**: 151 (March) 1921.

26. Palm, T. A.: The Geographical Distribution and Aetiology of Rickets, Practitioner **45**: 271, 321, 1890.

27. Huldschinsky, K.: Die Behandlung der Rachitis durch Ultravioletbestrahlung, Ztschr. f. orthop. Chir. **89**: 426 (May) 1920.

28. Hess, A. F., and Unger, L. J.: The Cure of Rickets by Sunlight, Proc. Soc. Exper. Biol. & Med. **18**: 298 (May) 1921; J. A. M. A. **77**: 39 (July 2) 1921.

outside the field of the sun's radiations. These clinical results, which indicate the importance of hygiene in relation to rickets, have been fully substantiated in the laboratory by the work of Hess, Unger and Pappenheimer,[29] and by that of Powers and Park and their associates.[30] These investigators found that when rats are fed a rickets-producing diet they can be regularly prevented from developing this disorder by short and frequent exposures to the sun's rays.

TABLE 2.—ULTRAVIOLET RADIATION—WHITE AND BLACK RATS

	Weight, Gm.	Ultraviolet Ray	Diet*	Roentgen Ray	Path.	Inorg. P.
White	70-70	1 min.	84	Neg.	Neg.	
White	58-60	1 min.	84	Neg.	Neg.	
White	60-70	1 min.	84	Neg.	Neg.	
White	62-70	1½ min.	84	Neg.	Neg.	
White	60-80	1½ min.	84	Neg.	Neg.	5.45
White	64-70	1½ min.	84	Neg.	Neg.	4.44
Black	50-60	1 min.	84	R.	R.	
Black	50-60	1 min.	84	R.	R.	
Black	60-58	1 min.	84	R.	R.	
Black	50-50	1½ min.	84	R.	R.	2.92
Black	48-54	1½ min.	84	R.	R.	
Black	60-60	1½ min.	84	R.	R.	3.00

* Rachitic diet, containing about 86 mg. per cent. of phosphorus.

Although it is now established clinically and experimentally that sunlight is concerned in the development of rickets, its significance is variously assessed. Some are of the opinion that its function is quite secondary and unimportant. It is a difficult aspect to discuss at present, but should be considered on account of its importance in preventive medicine and of its sociological aspects. In studying this question, one must constantly bear in mind that rickets is preeminently a seasonal disorder; that it is characterized by a striking seasonal variation. Clinicians as well as pathologists are in complete agreement as to its marked incidence in the winter and spring, and comparative rarity in the summer. It is our experience, acquired in the course of many years of institutional practice, that three quarters of the cases of rickets develop during the first half of the calendar year, and but one-quarter during the second half, and that almost all of the latter are observed in late November and in December. This seasonal factor is climatic, not dietetic, and due almost entirely to a lack of sunlight.[31] It may be suggested that a deficiency of sunlight is merely the fulminating or precipitating factor, bringing to evidence pre-existing rickets that has resulted from faulty diet. This raises a knotty question. There is no doubt that rickets is not only a hygienic but also a dietetic disorder, a point of view which is amply demonstrated by animal experiments. Rats fed an ideal diet do not develop rickets when kept in the dark; whether such would be the case with infants who received an ideal diet—adequate nursing—can be only surmised. However this may be, it should be remembered that a large proportion of the infants in our large cities are not nursed but bottle-fed, which means that they do not obtain a diet which, from a chemical standpoint, is correctly constituted. Considered as a group, they require an adjuvant to protect them from rickets. The question of the etiologic importance of light cannot be considered, therefore, by itself, but must be surveyed in relation to the reciprocal factor of diet. We shall see that there are a least two other determinants which play a rôle in relation to light—rate of growth and pigmentation of the skin.

Animal experiments well illustrate the close relationship between light and diet in the etiology of rickets. The diet remaining constant—standard rickets-producing diet—rickets will either develop or not according to the dosage of light. For example, it was found that raying for two minutes daily with the mercury vapor lamp, at a distance of 3 feet, afforded protection, whereas one minute was insufficient; four minutes sufficed when a carbon arc lamp was used at this distance, but two minutes did not suffice; direct sunlight for fifteen minutes daily was protective, but reflected sunlight for the same length of time afforded incomplete protection. A similar reciprocal relationship can be observed when the degree of light remains constant, but the rickets-producing intensity of the diet is altered. For example, if the standard diet is employed, short exposures to light have been found insufficient, whereas when 25 mg. per cent. of phosphorus is added to this dietary, the same degree of light afforded protection. There can be little doubt that the same cooperative or reciprocal relationship between light and diet prevails in regard to infantile rickets. The marked incidence of rickets in the early spring must be interpreted as indicating that during the winter the light factor ceased to perform its share of the protective work.

It is true of light, as of phosphorus and probably of other dietary factors, that requirement bears a direct relationship to rate of growth. Numerous animal experiments could be cited to illustrate this point; for example: On the Sherman and Pappenheimer diet a standard degree of light—raying of four minutes daily with the carbon arc lamp at a distance of 3 feet—will invariably protect rats from rickets; on this diet the rats grow poorly. When, however, this diet is so altered as to lead to progressive growth, the same degree of irradiation will fail to protect against rickets. Indeed, when there are among the group receiving the amplified diet some animals which have grown poorly, they either fail to develop rickets or manifest it mildly. If we translate this phenomenon into terms of clinical medicine, it signifies that the atrophic or marasmic infant—notably unsusceptible to rickets—has, in relation to this disorder, a far less requirement of the active light rays than the rapidly growing normal infant.

A third factor affecting the potency of light is the intensity of pigmentation of the skin. This aspect also can be demonstrated by a simple experiment. If two groups of rats, one composed of white rats and the other of black rats (the melanotic form of the Norway rat), are given the minimal protective dose of light, it will be found that although diet and rate of growth have been the same, the black rats will develop rickets, whereas the white rats will show no rachitic lesions. Table 2 reproduces the results of roentgenograms and gross and microscopic examinations of two groups of rats subjected to a test of this kind. It is manifest that the protective rays were rendered inert by the integumentary pigment. This experiment has a direct application to the well recognized susceptibility of

29. Hess, A. F.; Unger, L. J., and Pappenheimer, A. W.: The Prevention of Rickets in Rats by Exposure to Sunlight, Proc. Soc. Exper. Biol. & Med. **19**: 8 (Oct.) 1921; J. Biol. Chem. **1**: 77 (Jan.) 1922.

30. Powers, G. F.; Park, E. A.: Shipley, P. G.; McCollum, E. V., and Simmonds, Nina: The Prevention of the Development of Rickets in Rats by Sunlight, Proc. Soc. Exper. Biol. & Med. **19**: 43 (Oct.) 1921; J. A. M. A. **78**: 159 (Jan. 21) 1922.

31. As has been stated, rickets cannot be prevented from developing in the winter by feeding the milk of cows that have been pasture-fed. Moreover, in a mild winter, such as that of 1920-1921, rickets is far less frequent and severe than during a severe winter, such as that of the preceding year.

negro infants to rickets. Some years ago, in the course of a study of the prophylactic value of cod liver oil in a negro district of this city,[6] it was found that the majority of breast-fed infants and almost all the bottle-fed infants showed clinical signs of rickets. In regard to the breast-fed infants, the rickets may be interpreted by some as due to the faulty dietary of the mother.[22] As regards the bottle-fed infants, the dominating factor cannot have been dietetic, for these children obtained bottled milk from the same dairies as thousands of other children in this city. The main distinction is—as demonstrated by the animal experiment—that colored infants require a greater degree of the effective light rays than do white infants. That they possess no racial predisposition to rickets is evidenced by their freedom from this disorder in their native homes in the West Indies. The darkness of the skin is, no doubt, a predisposing factor, also, in the susceptibility of the southern Italian, the Syrian and other southern races. These statements do not imply that susceptibility is merely a question of degree of pigmentation of the skin, but rather that light is an important etiologic factor in rickets and that, in turn, pigment is an important factor in determining the efficacy of light. How great the importance of light is cannot be definitely stated, for, as has been shown, this differs according to the diet, to the rate of growth and to the degree of pigmentation of the skin. It is evident, therefore, that its relative importance must vary among different races, in different countries according to the dietary, in cities according to environmental conditions, and in different families according to the domestic regimen.

16 West Eighty-Sixth Street.

TREATMENT OF PYLOROSPASM IN INFANTS

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CHICAGO

So much has been written on the treatment of congenital pyloric stenosis that one who is not intimately acquainted with obstruction of the pylorus in infancy, or whose experience has not been rather large, may be

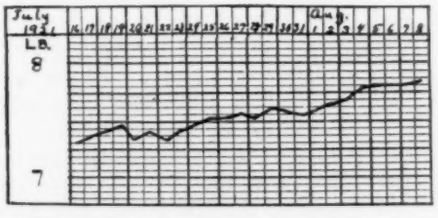


Chart 1.—Weight curve of Clifford G., aged 2 months; severe pylorospasm.

led to believe that congenital pyloric stenosis is a more frequent and more important condition in infancy than is pylorospasm. I am here assuming that, as I believe, the conditions are distinct clinical entities with similarity in the clinical picture. Certainly it may be said that pylorospasm is several times as frequently encountered as congenital pyloric stenosis. It also is often a very serious and even fatal disease, and its greater frequency, therefore, demands that it should receive as much attention early as does congenital pyloric stenosis.

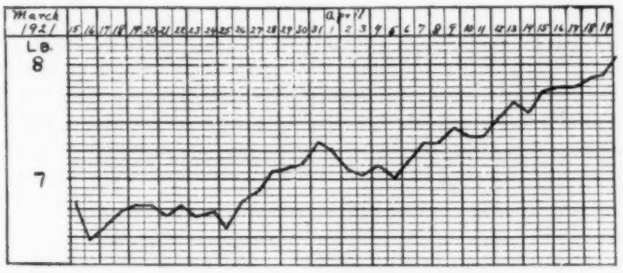


Chart 2.—Weight curve of Eleanor L., aged 10 weeks; severe pylorospasm.

Many authors, especially German, have championed the use of thick cereal feeding in the treatment of pylorospasm. For several reasons this is not an ideal treatment. In the first place, in infants of an age when pylorospasm occurs, it is very difficult to give the thickened food; not only is this true, but the large proportion and actual quantity of starch in the food mixture

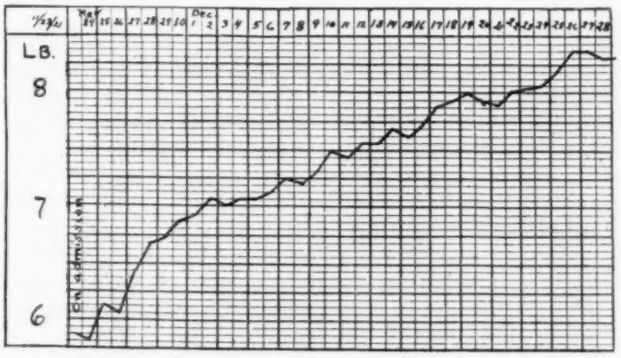


Chart 3.—Weight curve of Hazel D., aged 7 weeks; severe pylorospasm.

makes it a food which is not suitable for infants of this age. Together with Dr. Bonar, I have called attention to the fact that children so fed may show serious febrile reaction, sometimes followed by symptoms of shock.

For these reasons it would seem that some more physiologic method for caring for these patients might be of value. Provided a treatment is effective, its simplicity is a great recommendation, but we are often led to use simple remedies which are ineffective, when a more careful study of the condition and more tedious and exacting methods of treatment would lead to far better results. After all, the object of treatment is the relief of the patient's condition, no matter how difficult that treatment may be. It is for this reason that it is frequently necessary to carry out the treatment in the hospital rather than in the home; and, if the treatment advised in this instance is such that it can best be carried out only in a hospital, it seems to me that there is no reason either for apology or for complaint.

The indications for treatment in pylorospasm are two: first, to relax the spasm at the pyloric sphincter,

32. In New York City, and other large cities in the United States, rickets is most prevalent among the negroes and the Italians. It may therefore be of interest to note the peculiarities of diet of these races and the frequency of breast feeding. The diet of the negro mother is characterized by a large amount of carbohydrate and a small amount of fresh vegetables. The diet of the Italian is characterized also by a large quantity of carbohydrate, but an exceptionally large quantity of fresh vegetables. A smaller percentage of the negro babies and a larger percentage of Italian babies are nursed than those of almost any other nationality in the city. It seems impossible to correlate the incidence of rickets in these races solely with idiosyncrasies of diet.

and, second, to remove the irritation in the stomach resulting from the accumulation of disintegrated food, which has remained in the stomach as a result of the pyloric closure for a period longer than normal. For the first of these indications, the employment of atropin is to be advised; for the second, the cleansing of the stomach by washing and the giving of food which is adequate but not irritating. One must remember that in this condition there is no gastro-enteritis or disturbance of metabolism, only starvation due to the failure of food to pass the pylorus. It is not necessary, therefore, to give a food such as one would give were the condition due to some disturbance of digestion or internal metabolism. With these facts in mind, I have

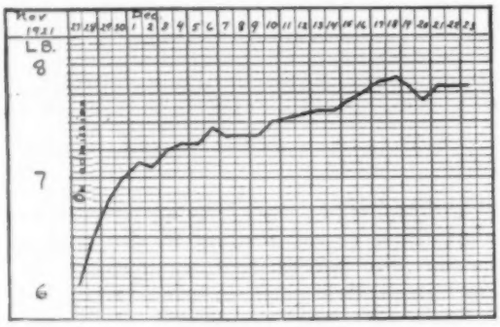


Chart 4.—Weight curve of Mary O., aged 7 weeks; severe pylorospasm.

carried out successfully the following method of treatment: Atropin is administered hypodermically to the quantity of from 1/1000 to 1/500 grain fifteen minutes before each feeding. Before the food is given, the stomach is carefully washed until the washings return clear. The food is then given through the tube before it is withdrawn. The food given in these instances is practically always a mixture of albumin milk and a dextrin-maltose combination, a quantity sufficient to meet the needs of a child of like age and weight without gastro-intestinal disturbance.

When the pylorospasm develops in a breast-fed baby, the child is allowed to nurse after the stomach washing. In breast-fed infants the results have not been as

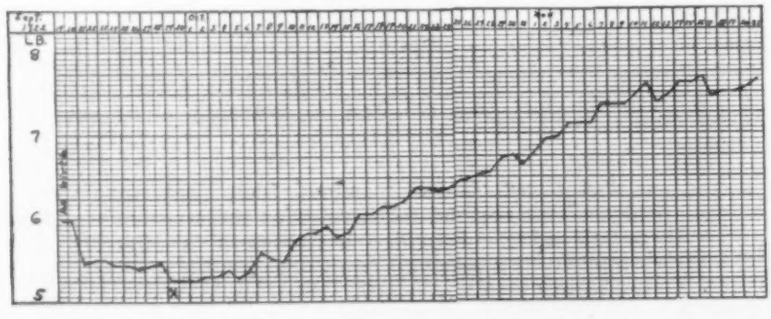


Chart 5.—Weight curve of Infant S. from birth on; severe pylorospasm; treatment began at *X*.

striking as in those artificially fed. It has never been thought wise, however, to discontinue breast nursing for this reason.

Within from two to three days after the institution of this treatment, in nearly all cases the vomiting ceases entirely, or there is only a slight regurgitation. The weight curve usually goes up immediately, and the general condition of the child improves. The treatment must be continued over a varying length of time in different cases. The average case will require from two to three weeks. One can determine in a given case whether or not he is approaching a cure by stopping the stomach washings for two or three feedings each day. If there is not return of vomiting, then all stomach washings may be stopped. There is also a gradual reduction in atropin until all atropin administration ceases. The results which may be obtained are to be seen from the accompanying weight curves of five consecutive patients treated.

104 South Michigan Avenue.

TYPHOID CARRIER EPIDEMIC

WITH SPECIAL REFERENCE TO THE PERIOD OF INCUBATION *

ROGER G. PERKINS, M.D.
CLEVELAND

In July, 1920, a sudden outbreak of typhoid in two of the most sanitary suburbs, at opposite ends of Cleveland, was brought to my attention. Both these districts had long been free from typhoid, and all the general central causes were absent. Many of the patients had not even been away, nor outside the area of the Cleveland water supply, and the rest of the city was almost free from typhoid.

All the cases were in women, and the only point of contact for the whole group was a luncheon at a private house in one of these suburbs, which had been attended by 200 women, June 25. Forty-one of these developed typhoid within the usual incubation period, and one of the attendants was also taken down with that disease. This gives an unusual incidence of nearly 20 per cent., showing that the infection must have been massive in character, but the mortality of three, or about 7.5 per cent., shows that the virulence was average.

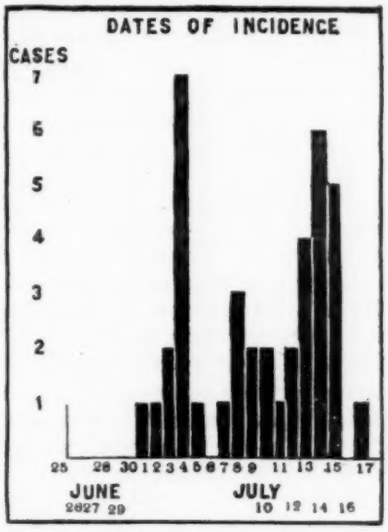
At the time the outbreak came to light, it was too late to get any of the food supplies that had been used at the luncheon, but the sources were ascertained and it was found that all the materials came from well-known places, and that no cases of infection had occurred in any of the other customers of these shops.

Examinations of the dejecta of all who had been concerned in handling the food were made at the Cleveland Health Division Laboratories, and it was found that one of the caterer's attendants had large numbers of typhoid bacilli in the stools, but none in the urine. Two weeks later another test gave the same results. As the inmates of the house where the lunch was given were infected at the same time as their guests, it is clear that they could not have been concerned.

While it is rarely possible after an interval of several weeks has passed to feel certain as to the identity of the actual material in which the organisms were distributed, it seems probable that the salad dressing, which was prepared by the carrier, was the substance at fault. One woman stated that she never ate lettuce, but all the rest of the forty-one had eaten more or less salad.

* From the Laboratory of Hygiene and Bacteriology, Western Reserve University School of Medicine.

The carrier gave no history of typhoid or of any illness that was suggestive of that disease, and had been in the catering business for many years, during which period no cases had been laid to her door. It must be remembered, however, that in former days there was a much higher incidence of typhoid in Cleveland and the vicinity, owing to unsatisfactory conditions which have since been removed in great part. It is possible, therefore, that a reasonable number of scattering cases in which the etiology was not carefully followed up might have been actually due to infection from her. Moreover, in the absence of any history of typhoid, it



Relation of incidence to incubation period.

is impossible to say when her own infection took place. Her habits were extremely cleanly, and it seems probable that some unusual circumstance occurred to cause the massive infection of the food.

Aside from the actual fixing of the responsibility, and the unusually high incidence among those attending the luncheon, the point of greatest interest lies in the period of incubation. It was possible by letters and interviews with the patients and their physicians to establish a very definite date of onset in each case, and when these are tabulated the graph is rather peculiar.

The period of incubation of typhoid is given as from seven to twenty-three days, and usually from twelve to fourteen. Cases of much shorter incubation are also on record, usually in laboratory infections in which more or less of an actual culture is swallowed by some one working with it. Longer periods are also on record, but in general any epidemic is found to conform approximately to these figures. The present series runs from the sixth to the twenty-second day after infection, but both the time groups into which the largest numbers fall lie at the extremes rather than at the mean. Beginning with one case on the sixth day, one on the seventh, two on the eighth, and seven on the ninth day, there is a marked slowing down through the middle period, with five a day on the eighteenth, nineteenth and twentieth days, marking the end of the epidemic, as there was but one subsequent case, on the twenty-second day. The early group would seem to indicate a massive infection, as would the large total incidence, and it would have been interesting to know the actual amount of the infected food eaten by the individual patients. The reasons for the formation of these three groups can only be surmised, and the main interest is for typhoid epidemiologists who must decide which cases are due to local conditions and which may fairly be considered as imported. Customs vary in different places, but it is a general rule that cases developing within two weeks after arrival are set aside as imported. This rule, if used in the present series, would have excluded eighteen cases, or nearly half, a very notable error. On the other hand, the acceptance of cases in which the patients have lived in any community two weeks as being infected in that community is similarly at fault. In any large series of cases there would accordingly be a certain balancing of error, and with that the statistician may console himself. It is probable, also, from statistics in general, that the cases occurring within ten days after infection are sufficiently in the minority to reduce the percentage of error.

A point to be considered in connection with this large percentage of incidence is that all the persons exposed were women, and that there is at present an unusually large percentage of men still more or less protected as a sequence of the war. A similar degree of infection of the food in a group equally divided as to the sexes might have had a very different effect.

There should be a definite standard established on the basis of which the community responsibility for individual cases could be estimated. At present some communities take responsibility for all cases reported to the health department, others refuse responsibility for patients who have been away even for a day or so within the extreme incubation period, while still others pursue a middle course. This causes unfairness, and while the present article shows that no absolute accuracy can be hoped for, at least the basis would be the same for all, and there would be a greater tendency for the errors to neutralize one another.

ABSENCE OF CORPORA LUTEA IN A CASE OF ATYPICAL UTERINE HEMORRHAGE

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The normal periodic bleeding from the uterus has been accepted as dependent on an internal secretion. The ovaries, we now know, are absolutely essential for this normal process, menstruation. Just which anatomic structure in the ovary is the determinant has not as yet been settled. Some authors state that menstruation may occur without ovulation, and that ovulation can occur without menstruation. The latter is easy of proof, for it is well known that women who are lactating but not menstruating can conceive. Bound up closely with this question is that of the function of the corpus luteum, which structure depends for its existence on normal ovulation. Various opinions are held as to its function. The commonly accepted mechanism may be thus outlined: Immediately after the rupture of the normal graafian follicle, the development of a corpus luteum begins. The organ, as it ripens, inhibits bleeding, but produces some secretion which prepares the mucosa for the menstrual flow. At the height of its development, the mucosa responds by the typical premenstrual hypertrophy. As the corpus luteum regresses, the inhibitory influence is removed

and bleeding begins. Frankel believes that the activity and not the regression of the corpus luteum causes the menstrual bleeding, and quotes his experimental work to substantiate his theory. He destroyed the corpora lutea by the actual cautery, and the succeeding menstruation did not appear.

Halban, on the other hand, removed the corpus luteum, and menstruation set in three or four days later and again one month later, showing that the first postoperative bleeding was a definite menstrual period. There were no control examinations of the stage of the mucosa.

Other authors and experiments can be quoted, some supporting Frankel and some Halban. The one definite fact that can be accepted is that the corpus luteum is associated with the menstrual function.

The case here reported is of interest as it tends to show that there is a relation between the corpus luteum and the pathologic bleeding from the uterus not associated with tumors.

REPORT OF CASE

N. B., aged 28, complained of periods of amenorrhea and menorrhagia alternating for the last one and one-half years. Menstruation began at 12 years of age. It was always irregular, coming on after intervals of from five to eight weeks and lasting from five to twelve days; it was rather profuse, but not associated with pain. She had been married eleven years, and had four children, aged 10, 8, 7 and 4 years, and one premature child at 8 months, two years before I saw her. During her married life she had had very few periods, as she was either pregnant or lactating.

About eighteen months before, she had a period of amenorrhea lasting six months. Bleeding then began, and persisted for two months, when she was curetted. This was followed by seven months of amenorrhea and three months of menorrhagia. There were no signs of pregnancy associated with either period of amenorrhea. On admission to the hospital, physical examination was negative, but she refused any operative interference and left. She returned nine months later with a history of five months of amenorrhea and a period of menorrhagia lasting four months.

Local physical examination revealed a moderate cystorectocele, the uterus of normal size, the cervix lacerated, and the os patulous and bleeding.

A supravaginal hysterectomy and bilateral salpingo-oophorectomy were performed. The uterus was about normal in size. The endometrium was hyperplastic and edematous. The ovaries were enlarged to twice the normal size, and were hard and white, with a markedly thickened albuginea. On section, the entire circumference under the tunica was studded with small cysts from 2 to 5 mm. in diameter. There were no larger cysts and no corpora lutea to be seen. Histologic examination of the uterine mucosa disclosed the hyperplasia that is usually found in cases of pathologic uterine hemorrhage of endocrine origin, i. e., edematous stroma, with some swelling of the cells, and tortuous, elongated and cystic glands. The ovaries showed a marked condensation of the stroma, it being of a very fibrotic character. There were a few epithelial lined cavities deep in the rete which represented embryonal structures. The vessels showed marked hyalinization of the walls.

The region just below the tunica presented numerous cystic atretic follicles, none of which contained ova, but in some of which the theca cells showed a swelling and proliferation, suggesting here and there a resemblance to the interstitial gland seen in rabbit's ovaries. There were numerous primordial follicles and a few maturing follicles. The ovaries were carefully sectioned serially to ascertain whether there were any corpora lutea or their scars present. All that could be found was a remnant of the regressive corpus luteum, hyaline and fibrous, undoubtedly a functionless structure.

COMMENT

Here, it would seem, is an indication pointing to the fact that in the absence of a functioning corpus luteum one may have persistent uterine hemorrhage. In most instances of so-called essential uterine hemorrhage, of which this seems to be an example, there has been found either a microcystic disease of the ovary, as in this case, but usually associated with small corpus luteum cysts or other types of hemorrhagic cysts, and a large, well developed corpus luteum.

The findings in this case would seem to add weight to the view of Halban that removal or absence of the corpus luteum results in uterine hemorrhage. Whether that is due to the fact that the corpus luteum acts to inhibit the bleeding, or because its activity prevents for the time being a rupture of mature follicles and so the new development of a corpus luteum, both of which points have been advocated, one cannot say. At any rate, in this particular case we have an atypical uterine bleeding associated with periods of amenorrhea. There are no lesions found in the uterus other than the hypertrophy that is so common in essential hemorrhage. In the ovary, one finds microcystic disease (atretic follicles with marked development of theca internal cells) which may or may not play a rôle in the bleeding. There is an absence of old or new corpora lutea, with the exception of one old hyaline structure apparently functionless, leading to the supposition that the bleeding is due to the absence of an active corpus luteum, or at least is dependent on it.

If menstruation can occur without ovulation, then the corpus luteum, which is dependent for its existence on ovulation, has no influence on normal bleeding. Up to the present this has not been proved, and so in view of the fact that in the absence of a functioning corpus luteum there is pathologic bleeding, I feel justified in concluding that the active corpus luteum inhibits the bleeding, at least in part. With the next ovulation, and a regression of the activity of the old corpus luteum, bleeding starts, to be again inhibited with the renewed development of the just formed corpus luteum, and thus the normal cycle is closed.

True, in this case another striking lesion in the ovary was the microcystic disease in the cortex, and its importance cannot be dismissed. These cysts, furthermore, either alone or in association with the corpus luteum, may play a rôle in determining the profuse atypical bleeding.

Schroeder [1] also reported some cases of menorrhagia and metrorrhagia with an hypertrophied mucosa and no corpora lutea. Schroeder believes, not that the normal period is instituted and the absence of the inhibiting influence of the corpus luteum results in the continued bleeding, but that the bleeding is due to the necrosis of the mucosa. This necrosis is the result of the persistent activity of the follicles that have not ruptured or of the granulosa hormones (?). The mucosa in the case reported by me, however, shows no evidence of thrombosis and a resultant necrosis. Furthermore, the bleeding was much too profuse and prolonged to be due to any small foci of necrosis. It seems that the bleeding in the case reported here is dependent on some perverted secretory influence rather than on small pathologic anatomic lesions.

300 Central Park West.

1. Schroeder: Arch. f. Gynäk. **110**: 63, 1919.

PURPURA FULMINANS

REPORT OF CASE

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Purpura fulminans is the name given to that variety of purpura characterized by rapid development and great prostration, often resulting in death within twenty-four hours, and with hemorrhages limited to the skin. Case reports conforming to the classical description of this disease are rare. Griffith [1] refers to it as "a very unusual condition seen oftenest in children." Sutton [2] states that it is "exceedingly rare" and that the "majority of reported cases have occurred in children." Pratt [3] is of the opinion that some of the cases reported as purpura fulminans were other forms of purpura in which death occurred suddenly, probably from cerebral hemorrhage. This author states that the disease usually ends fatally within from eighteen to forty-eight hours, that no patient has recovered, and that the typical cases have been in children.

REPORT OF CASE

J. M., a boy, aged 3 years, one of a family of three children all in good health, was put to bed as usual about 8 or 9 o'clock. About midnight he became ill with pain in the abdomen and vomiting. As an enema and the usual measures failed to give any relief, the family physician was called. The child was in great distress with the symptoms commonly present in intussusception, but no tumor could be felt. The temperature was 101 F. A diffuse, faint rash prompted him to consider scarlet fever, but the mucous membrane of the throat and tongue was anemic.

At 9 the next morning, about nine hours after the onset of the symptoms, I saw the patient in consultation. The mental condition was normal. After the first few minutes of fear and apprehension, the child cooperated in the examination satisfactorily. The body was covered with ecchymotic spots of varying size, the largest being approximately 3 cm. in diameter. The skin between the large ecchymoses was pale and studded with petechiae. On the back and legs, which were in contact with the table, there was a solid hemorrhagic area. The spots were uniformly dark blue. The patient was very toxic. The mucous membrane of the throat and mouth was pale and showed no hemorrhagic spots. The heart was very rapid and weak, and the radial pulse could not be felt. Examination of the lungs revealed only a few coarse mucous râles posteriorly. The abdomen was relaxed, the liver of normal size, and the spleen not palpable. There was no definite area of tenderness, but deep palpation over any part of the abdomen caused pain. Digital examination found the lower bowel empty and no tumor mass. Further examination revealed nothing of interest. The patient died ten minutes after the examination.

Briefly, necropsy revealed the hemorrhages limited to the skin. The liver, spleen and appendix were normal. There was no intussusception. The stomach and intestines were very pale, and simulated the postmortem findings of severe anemia.

COMMENT

This case presents the puzzling problem of etiology. In the textbooks the purpura group is divided etiologically into toxic and infectious. In recent years, attention has been directed to the association of purpura with meningococcic sepsis.

Netter and Mozer [4] found purpura in about 30 per cent. of their cases of meningococcic infection. Herrick [5] is of the opinion that the rapidly developing types of purpura are manifestations of meningococcic sepsis. At the time of this child's illness there were no cerebrospinal meningitis cases under quarantine in the city, and it is highly improbable that this was a sporadic case. Intestinal intoxication from some indiscretion in diet was considered, and we found that the only food out of the ordinary that he had a few days before was some freshly ground sausage. The other members of the family partook of this food without ill effect. Many of the cases reported have occurred during convalescence from scarlet fever.

The danger of mistaking the abdominal symptoms in purpuric disease for intussusception has been mentioned by Osler, Fantozzi,[6] and by Morse and Stone.[7] The latter also found a case of intussusception occurring as a complication of purpura hemorrhagica. The abdominal pain usually attributed to hemorrhage into the viscera is thought by Osler to be due to localized edema of the intestinal wall.

400 Portsmouth Building.

1. Griffith, J. P. C.: The Diseases of Infants and Children, Philadelphia, W. B. Saunders Company, 1919.
2. Sutton, R. L.: Diseases of the Skin, St. Louis, C. V. Mosby Company, 1921.
3. Pratt, in Osler's Modern Medicine **4**: 711, 1908.
4. Netter, A., and Mozer, M.: Bull. et. mém. Soc. méd. d. hôp. de Paris **42**: 773 (July 19) 1918; abstr. J. A. M. A. **71**: 1864 (July 19) 1918.
5. Herrick, W. W.: "Case of Purpura Fulminans," J. A. M. A. **76**: 55 (Jan. 1) 1921.
6. Fantozzi, G.: Policinico **26**: 281 (Sept.) 1919; abstr. J. A. M. A. **74**: 66 (Jan. 3) 1920.
7. Morse and Stone: Arch. Pediat. **26**: 287, 1909.

THE SCHOOLCHILD BEFORE AND AFTER TONSIL AND ADENOID REMOVAL

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After two years' observation and the recording of nose and throat conditions in schoolchildren, I was impressed by the large number of children showing pronounced enlargement of the cervical lymph glands and poor nose breathing, although their adenoids and tonsils have been skilfully and completely removed.

At the third yearly examination of these children, I decided to tabulate findings in the pronounced tonsil and adenoid cases, and in those children whose tonsils and adenoids had been removed, with particular reference to the breathing, enlarged cervical glands and the heart.

To determine whether time and the natural development of the child have any effect on these growths, the children were divided into two main groups. Group 1 comprised about 6,000 children, from 6 to 12 or 14 years old, and Group 2 included about 1,500 children, from 12 to 18. From each of these groups were taken the children with enlarged tonsils and adenoids, and the children who had been operated on for removal. Only markedly enlarged (obstructing) tonsils and those usually termed diseased or bad tonsils, either with or without adenoids, that is, those referred for operation, were included. Local causes of poor breathing, deviating septum, enlarged turbinates, polyps, "colds," etc., were eliminated as far as possible, and all were given the same routine examination.

Approximately 5 per cent. of the total number of children had been operated on for removal, from each group. Operations were done at from a few months to six or eight years prior to examination.

In Group 1, children mostly under 12 and all over 6 years old, there were recorded 450 pronounced tonsil and adenoid cases, about 7.5 per cent. of the total number examined. One hundred, or 22 per cent., of this number, had enlarged cervical glands, and nine, or 2

per cent., had cardiac murmurs at the apex. All the children with enlarged adenoids were bad breathers.

In this group there were 296 children who had had tonsils and adenoids removed, with breathing good in 132, or 44 per cent.; fair in sixty-seven, or 22 per cent., and poor in ninety-seven, or 34 per cent. Of these 296 children 114, or 38 per cent., had enlarged cervical lymph glands, and ten, or 3.5 per cent., had apical heart murmurs.

In explanation of some of these findings, a large number of the children had varying degrees of gland tissue proliferation in the pharynx and about the tonsil spaces. Some gave undoubted signs of syphilis. Some were asthmatic and subject to recurrent bronchitis and irritation of the upper respiratory tracts, and others were eczematous.

Group 2, taken from 1,500 children, aged from 12 to 18 years, who were promoted from the lower grades of Group 1 to the upper high school grades, is especially interesting because it should show the final outcome or end-results of the tonsil and adenoid conditions found in Group 1.

From Group 2 there were twenty-one children referred for operations. This is about 1.5 per cent., as compared with 7.5 per cent. from Group 1. Twenty per cent. of these had enlarged cervical glands, and none showed heart murmurs. Of the ninety-three children in this group whose tonsils had been removed, breathing was good in fifty-seven, or 62 per cent.; fair in nineteen, or 20 per cent., and poor in seventeen, or 18 per cent.

While 34 per cent. of younger children who had removals breathed poorly, the older group shows only 18 per cent. This is probably due to the reaching of immunity to infections in older children, and also to the increasing size of air space with dehydration and cessation of growth of lymphatic tissue.

Twenty-five per cent. of the children in this group had enlarged cervical glands, and there were five heart cases, or 5.3 per cent., a slightly higher incidence than in the younger group, which gave 3.5 per cent. Seven of the children with more severe valvular heart lesions were picked up at random; and, as no abnormal nose or throat condition was found at examination, they could not be included in either of the two groups.

To determine whether the ordinary so-called healthy, small and medium sized tonsil at a later date becomes pathologic, or whether those recorded as pathologic may later become healthy, we used a system of checking all tonsils from one plus to three plus, depending on their size and appearance, only three plus tonsils being considered for operation. In this way we checked up the same throats yearly for a period of four years, finding a wide variation in the size and appearance of the tonsils at different examinations. Many quite large and bad looking tonsils seen one year would look small and much improved at the next yearly examination; others, apparently insignificant, the following year had become much enlarged and foul looking.

About an equal number progressed upward from one plus, or receded downward from three plus. By far the largest number of our pronounced cases occurred between the ages of from 7 to 10 years. It is significant that this is about the age at which the infectious and contagious diseases of childhood are most prolific. It is also the middle of the second dentition period, when the mouth harbors many broken and decaying teeth, with lacerated gums and their accompanying infections.

CONCLUSIONS

While the amount of material and figures presented are far too small to justify definite opinions they at least suggest that:

1. The incidence of heart disease in the great number of children referred for tonsil operations is very small.
2. The cervical glands enlarge as often after as before tonsil removal.
3. There is more complete relief from symptoms when removal is done at from 7 to 10 years of age, in the majority of cases.
4. Early removal gives mechanical relief for a time; but the original cause of the growths, whatever it may be, is present and active until a much later period.

THE FITNESS FOR PREGNANCY OF PATIENTS WITH HEART DISEASE

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Whether or not it is safe for a given woman with heart disease to undertake pregnancy is a medical problem for whose decision we have to rely on many conflicting statements and opinions. If the patient should have already become pregnant, we are no better off, for there is no general accord as to the principles on which our decision should be based. We are told that mitral stenosis is a most dangerous lesion, and that the presence of aortic regurgitation is of very serious moment, and yet we often see patients with either or with both of these lesions who have gone through one or more pregnancies without any untoward event. It is also true that some patients with these lesions who have more or less marked symptoms of cardiac insufficiency during their pregnancy develop edema of the lungs during labor, and many of these will die.

The problem is fundamentally difficult, for we are called on before pregnancy or during the early months to say what will be the reaction of the heart, some months later, to a strain whose severity we cannot truly predict. The latter feature is one of the most vital parts of the problem, for there will obviously be a very different degree of circulatory strain from a labor lasting twenty-four hours or from a precipitate delivery.

It seemed that the only way to find a solution of this problem was to see a considerable number of women with heart disease either before they became pregnant or in the early months, and to follow them through pregnancy and labor to see how their hearts withstood the strain. It has been possible to do this at the Lying-In Hospital through the kindness of Dr. A. B. Davis. The patients were seen in the antepartum clinic as soon as they applied to the hospital, which was usually in the very early months. They were followed throughout pregnancy in the clinic with monthly or weekly visits as was indicated, and were sent into the hospital for delivery, or for observation or treatment if their condition called for it earlier.

After a preliminary period of observation, it was thought feasible to group these patients in such a way that their grouping would afford an indication of the severity of their condition, and thus indicate the possibility of dangerous heart failure occurring during labor. It was hoped that this grouping might become a

basis for prognosis as to the fitness for the strains of pregnancy and labor, and it is the purpose of this report to show how far it has proved to be reliable and in what respects it has failed.

It was early realized that no foundation for such a prognosis could be built on a basis of the pathology of the heart. There is an old and revered opinion in medicine that the presence of mitral stenosis is a most serious thing for the pregnant mother, and yet we soon saw several women with well developed mitral stenosis go through to full term and pass through even difficult deliveries without any sign that the heart was giving way. I elsewhere[1] express the belief that the sole reason for the bad repute of mitral stenosis lies in its frequency. In our experience at the Lying-In Hospital it is twice as frequent as aortic regurgitation, and so we should find twice as many mitral cases causing trouble as we do aortic cases if the two were of equal severity. We do not, as a fact, find this proportion among our seriously sick patients, there being about an equal number with each of these lesions. Cases with combined aortic and mitral lesions are not considered in either category.

The only guide from the heart's pathology which we have been able to deduce from our experience is a belief in the relative harmlessness of uncomplicated mitral regurgitation, whether with a slight or a greater degree of enlargement of the heart. All of our patients who had this condition were well compensated throughout pregnancy and labor, so that we feel that one who has uncomplicated mitral regurgitation should be considered as an excellent risk. If, however, one of these patients should fall into Group 3 or 4 of our classification—a coincidence which we have not yet encountered—I should not feel that they were safer than any other patients of the group.

The basis of our grouping, which follows the general principles of that adopted by the Association of Cardiac Clinics of New York City, is the patient's reaction to exercise. The subjective complaints of the patient as she goes about her ordinary life, and the subjective and objective reactions to a test exercise performed at the time of her visit to the physician are used for the grouping. We ascertain the patient's symptoms when walking, house cleaning and climbing stairs to find how much she is restricted in her activities by the appearance of shortness of breath or palpitation. We then get her to exercise, standing with feet separated and swinging a 10 pound dumb-bell held in both hands from over her head to as near to the floor as she can conveniently reach, repeating the movement about once every two seconds. This swing can usually be repeated twenty times without difficulty, but the patient should be carefully watched, and stopped if there is marked flushing or evident dyspnea or distress. I have used this exercise test a great many times with these patients and have never seen or heard of any harm coming from it. I was under some apprehension at first that its use with pregnant women might precipitate an early labor, but this event has not taken place. A normal pregnant woman can swing a 10 pound dumb-bell twenty times without distress and with only a slight sense of breathlessness. There will be only slight objective dyspnea, the pulse will accelerate to a rate of 120 a minute or less, counting for the first ten seconds only and multiplying by 6, and by the end of one minute the respiration will have become normal and the pulse nearly so, the pulse returning quite to its normal level at the end of two minutes. This is a normal reaction to this amount of exercise, for it would not be normal if it resulted from only four or five swings of the dumb-bell.

Herein lies the reason that we must use such a relatively strenuous test exercise, for if a less strenuous exercise is used, it will not reveal the limited ability of the heart. Just so in testing the strength of a stick we must bend it sharply or we shall not be certain of revealing a latent weakness.

If twenty swings of 10 pounds should cause some evident distress, as shown by flushing or an anxious facies, with marked dyspnea and a pulse rate of 25 for the first ten seconds, a rate of 150 a minute, and if the dyspnea and pulse acceleration last more than a minute and the rapid pulse for two minutes or more, then this reaction should be considered excessive. A moderately increased reaction would lie between these two; but a patient who was stopped after ten swings because of evidences of distress and yet showed a moderately increased reaction should be considered to have an excessive reaction to twenty swings.

DIAGNOSIS, GROUPING AND COURSE*

Group 1	Group 2	Group 3	Group 4
MS	MR	MR plus adiposity	MS H
MS	MR	MS o D	MS c D
MS & R	MR plus hyperthyroid	MS o	MS pr
MR & S	MS	MS p	MS h plus auricular fibrillation
MR & S plus irritable heart	MS	MS o	MS & R e i
MR	MS	MS	AR & MR w
MR	MR & S	MR & S	AR, MS & R o t D
MR	& AR	AR e D	AR, MR & S w I
AR		AR & MR o	AR & S pr

* The patients are indicated by their valvular lesion, e. g., MS, mitral stenosis; AR & MR, aortic regurgitation and mitral regurgitation; AR & S, aortic regurgitation and stenosis. When two lesions are named, the first is the one considered to be of most clinical importance in the patient considered. The clinical progress of the case is indicated by the reference letters as follows: D, died; o, developed edema of the lungs during labor; e, developed edema of the lungs before labor; p, palpitation and dyspnea during labor without edema of the lungs; pr, precipitate delivery; H, hysterotomy at the fifth month because of fear of trouble during labor; h, hysterotomy at the fifth month because of contracted pelvis; i, patient had two attacks of pulmonary edema during pregnancy, recovered, and went through a short instrumental delivery at term; t, twin delivery; w, positive Wassermann reaction; I, pulmonary infarct at third month; hysterotomy after recovery.

By combining the patient's symptoms after her ordinary exertions with her reaction to the foregoing exercise test we have been able to place all patients in one of the four following categories:

Group 1. Patients who were not troubled by what they considered unusual dyspnea or palpitation on exertion before pregnancy, and who did not develop this during pregnancy. These patients showed a normal reaction to the test exercise, or, if not, they were placed in Group 2.

Group 2. Patients who were not troubled by unusual dyspnea or palpitation on exertion before pregnancy, but who had either complained of this during a previous pregnancy or who had such a complaint during the present pregnancy. These patients showed a normal or moderately increased reaction to the test exercise. If they showed a markedly increased reaction, they were placed in Group 3.

Group 3. Patients who had been troubled by unusual dyspnea or palpitation on ordinary exertion before pregnancy, and who had noticed an increase of these symptoms during a previous pregnancy or during the present one. These patients showed a moderately increased reaction to the test exercise. If they showed

1. Pardee, H. E. B.: Treatment of Cardiac Failure During Pregnancy, Am. J. Obst., to be published.

a markedly increased reaction, they were placed in Group 4.

Group 4. Patients who had been troubled by unusual dyspnea or palpitation on exertion before pregnancy, these symptoms having been markedly accentuated during a previous pregnancy or just previous to or during the present one, so that the patient had to remain in bed for a time. A history of bed sickness from heart disease when the patient was not pregnant was not considered to place her in Group 4 unless it was less than six months previous to the present pregnancy. These patients all showed markedly increased reactions to the test exercise.

There were thirty-five patients with heart disease who were grouped according to this system. Nine of these were in Group 1, eight in Group 2, nine in Group 3 and nine in Group 4. The accompanying table shows the diagnoses of these patients, their grouping and the untoward events of their further course. These cases will be reported in detail elsewhere. It can be seen that the deaths were confined to patients in Groups 3 and 4, and that no patients in either Group 1 or Group 2 showed serious effects of the strain of labor. Three patients of Group 3 and two patients of Group 4 went through pregnancy and labor without serious symptoms or signs of cardiac overstrain, though some of these patients were unable to climb one flight of stairs except at a very slow rate, on account of the resulting dyspnea.

It is interesting and of considerable clinical significance that no patients in either Group 1 or Group 2 developed serious signs of cardiac overstrain during labor, though some of them were more than slightly incapacitated during pregnancy for the ordinary exertions of their lives. The number of patients is, of course, small, but it represents about half of all the patients with heart disease that we saw during this period. It seems that a grouping which will enable us to say that half of our patients are in no serious danger is well worth a thorough practical trial.

Groups 3 and 4 evidently include the serious cases, those who, we may anticipate, will give signs of circulatory embarrassment either during labor or during pregnancy. The majority of these patients had symptoms of cardiac insufficiency, i. e., shortness of breath or palpitation on ordinary exertion, before the beginning of pregnancy. This was not true of all of them, though, for some were placed in Group 3 because of the severity of their reaction to the test exercise. It is interesting to note that the patients in Groups 3 and 4 afforded about the same percentage of serious happenings, though Group 4 was considered to include the more serious cases. Possibly the reason for this may lie in the smallness of the series.

It seemed to us, at the time of the delivery, that the only reason that three of the Group 4 patients did not develop serious symptoms of cardiac strain lay in the briefness of the labor. Two were practically precipitate deliveries, while the third patient was given prompt operative assistance as soon as labor set in. Two other Group 4 patients had hysterectomy performed at the fifth month of pregnancy, so that it cannot be said with certainty how severe or mild their future course would have been.

Here we discern the importance of an early knowledge of whether the labor will be a hard one or an easy one, and how vital it is for the mother, especially if she falls into Group 4, that the labor should be easy. It is apparently more important for Group 4 patients than for those of Group 3, for some of these have gone through quite usual labors successfully, and two had unusually long ones.

Neither of the two deaths of Group 3 patients occurred during labor. One was at the seventh month of pregnancy during an attack of edema of the lungs which was thought to have an origin in coronary artery occlusion, while the other patient died of a cerebral embolus which came after recovery from an acute cardiac failure starting during labor with edema of the lungs. Both of the deaths of Group 4 patients were during or immediately after labor. One delivery was by a vaginal section, and the other was a manual delivery of twins.

There is not a great difference in the course of the patients of Groups 3 and 4, and it may not prove to be a profitable division of the patients. Those in Group 3, though, had harder labors, and it may be that this is the reason that their theoretically greater cardiac reserve was so often strained beyond its limits. It is plain that we have in these two groups some women with poor cardiac reserve who were able to go unassisted through pregnancy and labor without serious symptoms, and some who were not able to do this. The exercise test should give us some degree of help in determining those who will go through safely, but our results in following the course of the patients shows that it is not an infallible guide. I believe that the reason for this lies in the variable strain which is associated with pregnancy and labor in different women. A phlegmatic woman will be a safer risk than a nervous one with the same degree of limitation of the cardiac ability, as will also a woman with a roomy pelvis or with a small baby be safer than with a small pelvis or a large baby.

The number of previous children did not seem to be an important factor in determining the relative safety of the mothers in Groups 3 and 4 of our series. One of the three primiparas and three of the twelve multiparas died. One of the primiparas went through labor without signs of serious cardiac failure, as did six of the multiparas.

We have found the grouping according to this method very useful in prognosis. It has also been of great help in the management of the pregnancy to know that a Group 3 or Group 4 woman must be very carefully watched, because only about half of them will go through labor without a dangerous degree of cardiac overstrain. I believe that women in these two groups should be allowed to undertake pregnancy only when there is some very special reason for having a child or when they are ready to keep themselves under the constant observation of a physician who is accustomed to handling such cases. The details of this observation have been fully dealt with elsewhere, and I consider the details so important that they cannot be condensed here. With proper management of these severe cases it should be possible to allow any woman with cardiac disease to try to have a baby and to feel that the risk she takes is not inordinately great. The maternal mortality should be much smaller than in this series. A certain number of these pregnancies in severe cases will have to be interrupted in the interest of the mother's life before the child is viable, but the great majority of them can be carried through successfully.

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THE DETERIORATION OF NEO-ARSPHENAMIN

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Although the utmost precaution is taken by the manufacturers to prevent commercial neo-arsphenamin from deteriorating, a not inconsiderable number of lots undergo changes of so decided a nature that they are rendered either useless or, in some cases, dangerous to life.

During the last three years it was my privilege to examine biologically for the federal government, at the Hygienic Laboratory, all of the lots of commercial arsphenamin and neo-arsphenamin manufactured in the United States, as well as numerous samples of each compound which were submitted for examination to the Hygienic Laboratory of the U. S. Public Health Service, by the U. S. Public Health Service Hospitals, U. S. Army, U. S. Navy and many syphilologists. In no instance was a lot of arsphenamin encountered which could be definitely said to have deteriorated, whereas a rather large percentage of the lots of neo-arsphenamin were found to have deteriorated since their first examination.[1] In this way it was learned that neo-arsphenamin, while in a sealed ampule, may change in color, solubility, mobility in the ampule, odor and toxicity. In order to determine the percentage of the lots of neo-arsphenamin that had undergone a change in solubility since their first examination, all of the lots which complied with the official requirements that were submitted by two domestic manufacturers during the period extending from February, 1919, to February, 1920, were reexamined in July, 1921. Reexamination revealed that, out of the forty-nine lots received from one manufacturer, thirteen were found to have become difficultly soluble, whereas, out of the twenty-five lots received from another manufacturer, eight showed a similar change; that is, about 25 to 30 per cent. of the lots issued by two of the leading manufacturers had deteriorated within three years.

TABLE 1.—KEEPING QUALITIES OF NEO-ARSPHENAMIN, WHILE IN THE AMPULE, TOXICITY BEING INDICATED BY THE TOLERANCE SHOWN BY WHITE RATS, WHEN ADMINISTERED INTRAVENOUSLY AS A 4 PER CENT. AQUEOUS SOLUTION

Manufacturer	Sample	Date of Manufacture	How Kept	Appearance and Physical Properties at Examination	Date of Examination	Details and Results of Examination	Comment
A	a	March, 1919	Room temperature (20-29 C.)	Light golden yellow powder; freely mobile in ampule; readily soluble in water at room temperature	March, 1919	No deaths out of 5 injected at 200 mg. per kilogram	
A	a	March, 1919	Submitted for reexamination; probably kept at room temperature	Light golden yellow powder; freely mobile in ampule; turbid solution after ½ hour in water at room temperature	July, 1920	No deaths out of 5 injected at 200 mg. per kilogram	Solution still turbid after filtration; 2 animals received filtered, 3 unfiltered solution
A	b	December, 1919	Room temperature	Light golden yellow powder; freely mobile in ampule; readily soluble in water at room temperature	December, 1919	No deaths out of 5 injected at 200 mg. per kilogram	Injection made in 5 to 6 seconds
A	b	December, 1919	Submitted for reexamination; probably kept at room temperature	Light golden yellow powder; freely mobile in ampule; difficultly soluble in water at room temperature; complete solution after 20 minutes	July, 1920	One death out of 5 injected at 200 mg. per kilogram	Storeroom sample also difficultly soluble; powder trifle darker than sample submitted
B	c	December, 1918	Room temperature	Light golden yellow powder; freely mobile in ampule; readily soluble in water at room temperature	December, 1918	Three died within 6 days out of 10 injected at 180 mg. per kilogram	
B	c	December, 1918	Submitted for reexamination; probably kept at room temperature	Deep golden yellow powder; adheres slightly to sides of ampule; incompletely soluble in water at room temperature	May, 1921	No deaths out of 5 injected at 200 mg. per kilogram	
B	d	June, 1919	Room temperature	Light golden yellow powder; freely mobile in ampule; readily soluble in water at room temperature	June, 1919	No deaths out of 5 injected at 200 mg. per kilogram	
B	d	June, 1919	Submitted for reexamination; probably kept at room temperature	Light golden yellow; freely mobile in ampule; incompletely soluble in water at room temperature; sharp garlicky odor to solution	December, 1919	No deaths out of 5 injected at 200 mg. per kilogram	Solution unfiltered
B	d	June, 1919	Submitted for reexamination; probably kept at room temperature	Light golden yellow; freely mobile in ampule; incompletely soluble in water at room temperature; sharp garlicky odor to solution	June, 1920	One death on first day, out of 5 injected at 200 mg. per kilogram	Death occurred from unfiltered solution
C	e	February, 1919	Room temperature	Golden yellow powder; freely mobile in ampule; readily soluble in water at room temperature	February, 1919	One death on first day, out of 5 injected at 200 mg. per kilogram	Odor of ether on opening ampule
C	e	February, 1919	Storeroom temperature (18-20 C.)	Brick red cake; could not be moved on shaking ampule; practically insoluble in water at room temperature	March, 1921	No deaths out of 5 injected at 200 mg. per kilogram (filtrate contained 0.75 per cent. arsenic)	Odor of ether on opening ampule; material settles
D	f	June, 1920	Room temperature	Light golden yellow powder; freely mobile in ampule; readily soluble in water at room temperature	June, 1920	No death out of 10 injected at 200 mg. per kilogram	
D	f	June, 1920	Storeroom temture	Light golden yellow powder; freely mobile in ampule; incompletely soluble in water at room temperature; fine flocculent precipitate	March, 1921	Nine died within 5 days, out of 10 injected at 200 mg. per kilogram	
D	f	June, 1920	Storeroom temture	Light golden yellow powder; freely mobile in ampule; incompletely soluble in water at room temperature; fine flocculent precipitate	June, 1921	All died within 6 days, out of 10 injected at 200 mg. per kilogram	Solution not filtered; white scum on surface after 1 hour

1. According to regulations formulated under an act of Congress, all arsphenamin and allied products must be examined by the Hygienic Laboratory of the U. S. Public Health Service before being released for interstate or foreign trade.

Table 1 gives the results of the toxicologic and physical examination of six lots of neo-arsphenamin, and describes in detail the changes referred to above.[2]

Table 1 shows that the most constant change that occurs in neo-arsphenamin is the development of a decrease in solubility. Lot f showed an increase in toxicity coincident with the decrease in solubility. It is of interest to note that, although the difficultly soluble lots may not be excessively toxic for white rats, such lots as a rule cause grave disturbances when used clinically.

For example, Lots a, b, c and d were submitted for examination because they had given rise to alarming symptoms of a "nitritoid" type. This reaction appears almost immediately after injecting the drug, and usually consists, first, in experiencing a feeling of tingling and burning over various skin areas of the body; later, in injection of the face, swelling of the eyelids, lips and tongue; a fear of impending death; abdominal pain, which is usually accompanied by nausea and vomiting; cyanosis, together with difficult and irregular respiration. In some cases, convulsions or even death may occur. As a rule, these symptoms rapidly subside, leaving no noticeable after-effects. In this connection it should be stated that such symptoms may be produced by perfectly clear solutions of neo-arsphenamin; however, their occurrence after clear solutions is rare as compared with their occurrence after turbid or incomplete solutions.

Experiments made to determine the cause for the deterioration of neo-arsphenamin indicate that deterioration depends in large measure on the nature of the lot at the time of the manufacture, the conditions under which the filled ampules are kept, and possibly the age of the lot.[3]

TABLE 2.—EFFECT OF HEAT ON NEO-ARSPHENAMIN, WHILE IN THE AMPULE

Manufacturer	Lot	Treatment	Solubility in Water As a 4 per Cent. Solution (After 10 Min.)	Comment
A	g	100 C. for 13 min.	Soluble	No change in color of powder or odor; powder freely mobile
A	g	100 C. for 20 min.	Incompletely soluble	Powder adhered to sides of ampule; color trifle darker than before heating
B	h	100 C. for 20 min.	Incompletely soluble	Powder changed from light yellow to orange red; caked in ampule
B	i	100 C. for 20 min.	Incompletely soluble	Powder changed from light yellow to orange red; caked in ampule
D	j	100 C. for 20 min.	Soluble	No change in color or mobility in ampule
E*	k	100 C. for 20 min.	Soluble	No change in color or mobility in ampule
E*	l	100 C. for 20 min.	Soluble	No change in color or mobility in ampule

* Foreign products; all others, domestic products.

Experiments conducted to ascertain the influence of temperature showed that temperature is an important factor in hastening the deterioration of some lots of neo-arsphenamin while in the ampule. Incubation of some lots at 37 C. for about nine months caused the development of an incompletely soluble product, whereas controls kept at about 20 C. remained soluble. Furthermore, profound changes could be readily affected in some lots by heating to 100 C. for twenty minutes, whereas other lots remained practically unchanged. Table 2 gives the details of the experiments on heating.

The age of the lot may possibly be a factor in producing an incompletely soluble product; but, since such change may be found in some lots within about two weeks after manufacture, age may be regarded as a factor of less importance in the production of deterioration.

2. The toxicity tests herein described were made according to the official Hygienic Laboratory method. This method requires that, in the toxicologic tests, white rats weighing between 100 and 150 gm. shall live seven days when given neo-arsphenamin intravenously as a 4 per cent. aqueous solution in the dosage of 200 mg. per kilogram.

3. Further experiments and discussions relating to the deterioration of neo-arsphenamin will be found in Public Health Reports **36**: 2523 (Oct. 14) 1921.

CONCLUSIONS

1. Commercial neo-arsphenamin is a relatively unstable substance in the ampule.

2. Temperature is a potent factor in causing its deterioration.

3. It is advisable to keep it under storage conditions similar to those required for vaccines, that is, at icebox temperatures, until all the factors concerned in causing the deterioration of the compound are understood.

USE OF ANTISTREPTOCOCCUS WHOLE HUMAN BLOOD IN MALIGNANT ENDOCARDITIS *

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CHICAGO

Antistreptococcus serums have not given satisfactory therapeutic results. Yet it is well known that animals may be readily immunized to streptococci so that they are able to withstand many times the lethal dose, and so that protective substances may be demonstrated in considerable concentration in their blood. Evidently it is desirable to transfer this immunity more completely than is possible by the use of polyvalent preserved serums.

In malignant endocarditis, a unique opportunity for serum therapy presents itself. The chronicity is usually sufficient to permit the isolation of the particular strain of streptococcus responsible for the disease, and immunization of an animal with it. The serum may then be used fresh.

About two years ago, a sheep was immunized with a strain of *Streptococcus viridans* obtained by blood culture from a young woman with malignant endocarditis. The serum of this animal showed a high opsonic activity,[1] and was used while fresh for intravenous injection. The use of this serum was followed by a well marked serum reaction with a rise of temperature and urticaria, but there was no benefit to the patient.

Certain disadvantages of this attempt at passive immunization are apparent. First, a foreign serum was used; thus limiting the quantity compatible with safety. Second, no use could be made of any of the increased phagocytic activity of the leukocytes of the immunized animal. It seemed that these disadvantages might be avoided by immunizing a human subject with the streptococci from malignant endocarditis by the same procedure followed in the preventive inoculation with typhoid bacilli, and later using such a person as a donor of whole blood. In this way, reasonably large amounts of whole immune blood could be transfused into the patient. This method was tried in the case of a woman, aged 28, who had an irregular fever, evi-

* From the John McCormick Institute for Infectious Diseases.

1. I am indebted to Dr. Ruth Tunnicliff for the opsonic determinations.

dence of lesions of the aortic and mitral valves, and emboli in the spleen, posterior tibial artery, lungs, skin and femoral artery. A blood culture gave many colonies of *Streptococcus viridans*.

The husband of the patient was immunized to the streptococcus isolated from the patient's blood by injecting subcutaneously on successive days ½ billion, 1 billion, and 2 billion organisms which had been killed at 57 C. The serum of the patient agglutinated the red cells of this donor so that whole blood could not be transfused. On the seventh day following the last injection, 50 c.c. of blood was withdrawn from the donor and immediately centrifuged with 1 per cent. sodium citrate. From this blood, 20 c.c. of serum was collected and given the patient intravenously while still warm. This procedure had no apparent influence either beneficial or harmful. Four days later, 25 c.c. of whole blood from the husband was given to the patient subcutaneously. The same treatment was repeated two days later and again four days later. No effect was noted from these injections.

In the meantime, the patient's sister, who was in the same blood group as the patient, was immunized by injections on successive days of 1, 2 and 3 billion heat killed organisms. One week later, 2, 3 and 5 billions were given on successive days. A slight febrile reaction and local inflammation followed the last injection. Eight days following the last injection, 25 c.c. of blood was withdrawn from the sister's arm and immediately injected into the arm vein of the patient. This procedure was repeated on the second, third and fifth days following. During the time the intravenous transfusions were given, the patient stated that she felt much better. She was again able to eat; the nausea and vomiting ceased; there were no chills; the temperature variation was less, and the patient's mental confusion and stupor disappeared. On the morning of the second day following the last of the five intravenous administrations of whole blood, the patient died suddenly, probably as the result of another embolism. A necropsy could not be obtained.

SUMMARY

The intravenous injection of fresh serum from a sheep immunized with the patient's strain of *Streptococcus viridans* produced no benefit.

Fresh human serum from a person immunized with the patient's streptococcus administered intravenously was of no benefit.

Fresh whole blood from a person similarly immunized was of no value on subcutaneous injection; but, administered intravenously, this antistreptococcus whole blood produced a definite temporary improvement.[2]

25 East Washington Street.

2. Temporary improvement has followed this procedure in a second case of malignant endocarditis now under observation.

Donations to Science.—The *Nederlandsch Tijdschrift* endorses what the *British Medical Journal* recently had to say on the ill advised generosity of persons who offer prizes for the discovery of a sovereign cure for some hitherto incurable disease. Both editorials deplore the limitation of the prize to the "cure," instead of the fund being available for those who are working to find the cure. There are a number of large prizes thus hung up in scientific circles, doing no one any good, while research workers are struggling against overwhelming odds in their investigations.

CLINICAL TETANY BY FORCED RESPIRATION *

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ST. LOUIS

In a previous paper [1] it was shown that all the essential symptoms of tetany could be produced in the human subject by voluntary forced respiration. So far as is known,[2] there are no reported cases of tetany due to accidental or involuntary overventilation. The cases reported here are therefore presented as cases of tetany occurring under various conditions and during various diseases, but all due to forced respiration.

REPORT OF CASES

CASE 1.—C. I., a man, aged 28, a medical student, who had cholelithiasis and cholecystitis, during severe attacks of gallbladder pain developed tetany following a period of overbreathing.

The first attack occurred at Newport News, Va., Oct. 28, 1918, while he was in service. He had a severe attack of pain and tenderness in the gallbladder region, with fever and general prostration. During the height of his pain, he unconsciously started to breathe deeply, and after about ten minutes of forced respiration became dizzy, and developed tingling of the hands, face and then the entire body, and then spasms of the feet, hands and face. The case was diagnosed by a member of the Medical Corps as epilepsy. The patient was given morphin, which relieved the pain and caused the tetany to disappear.

In November, 1918, the patient had a similar attack of probable cholecystitis with overrespiration and resultant tetany. The case was again diagnosed as epilepsy by the same physician and also by another, a neurologic consultant. The patient was given a complete neurologic examination, including a stereoroentgenogram of the skull, the latter because he had a traumatic scalp wound in June, 1918. All examinations were negative. The neurologic opinion was that the generalized spasticity was a form of epilepsy brought on by intense pains and due to a lowered stimulus threshold.

In March, 1919, he had a third gallbladder attack and again developed tetany. This time, however, he employed forced respiration purposely, because, as he stated, when he overbreathed sufficiently his abdominal pain was distinctly lessened in degree.

Dec. 28, 1921, the patient entered Barnes Hospital because of a return of the abdominal symptoms. December 29, at 5 p. m., the symptoms became greatly aggravated. He had an acute pain in the upper right quadrant with rigidity, extreme tenderness and increased dulness below the right costal margin. The patient began to overbreathe, and when I saw him at 5:30 there were typical carpopedal spasm, and spasticity of the face and of the muscles of the thighs and legs. The Chvostek and Trousseau signs were positive. Urine collected following this attack was markedly alkaline, containing but 2 c.c. of tenth-normal acid per hundred cubic centimeters of urine. The patient himself then diagnosed the case as tetany due to overbreathing, as he had seen me produce it in the class room. He said that his pain was distinctly less severe during the period of hyperpnea. Tetany disappeared following the cessation of deep breathing. About 7 p. m. the same day the patient again developed tetany following forced respiration, similar to the previous attacks.

Next day, the patient was operated on. The gallbladder, which was huge and distended, contained stones. There were a few adhesions about the gallbladder, and a small amount of clear, free fluid in the abdomen. Cholecystectomy was performed, with recovery from the abdominal symptoms.

* From the Department of Internal Medicine, Washington University Medical School.

1. Grant, S. B., and Goldman, Alfred: Am. J. Physiol. **52**: 209 (June) 1920.

2. Since this paper was written, my attention has been called to an article by Barker and Sprunt (Endocrinology **6**: 1 [Jan.] 1922), who cite a case of a spontaneous attack of tetany during a paroxysm of hyperpnea in a patient convalescent from epidemic encephalitis.

CASE 2.—D. D., a nurse, aged 23, of good general health, on Jan. 29, 1921, about 7 p. m., while walking, felt faint, and became weak, short of breath and nauseated. She walked fast to reach her home, and fell on her bed panting and breathing deeply. She continued to breathe deeply, as she felt that she could not get her breath fast enough. Then her arms became numb, her fingers tingled, and her face, neck and legs then felt numb and stiff. Her mouth, especially, felt "peculiar." Ten minutes after the onset of these symptoms, Dr. Herrmann saw the patient and noted that the face was flushed, the mouth was drawn, and there was a typical carpopedal spasm; breathing was quite deep and rapid; the Chvostek and Trousseau signs were markedly positive. The patient was sent into Barnes Hospital, where I saw her. A typical attack of tetany, due to overventilation, was observed. At 8:15 p. m. during tetany, the alveolar carbon dioxid was of 20 mm. tension. The urine at this time was markedly alkaline, and contained 3 c.c. of tenth-normal acid per hundred cubic centimeters of urine. The blood calcium at this time was 10 mg. per hundred cubic centimeters. At 8:30 p. m., the alveolar carbon dioxid was 23 mm. The patient was then instructed to stop deep breathing as much as possible, and take very shallow respirations. She at once began to relax. At 8:45 she became nauseated, and vomited a considerable amount of yellow granular fluid. The vomitus contained free hydrochloric acid 28, total 46. At 8:46 the alveolar carbon dioxid was 25 and the patient was completely relaxed; at 8:55 it was 30; at 8:57, 35; at 9, 35. The plasma bicarbonate was not estimated. The patient had eaten a considerable amount of chop suey at noon of the same day, to which she attributed her nausea.

CASE 3.—T. W., a woman, aged 22, entered Barnes Hospital, Oct. 17, 1921, because of attacks of nervousness and crying spells in which she became more or less rigid, with trembling of the entire body, of five weeks' duration. The patient's aunt had a similar condition. The patient was irritable and neurotic. I saw a typical spell in which the patient first cried for several minutes and then started to overrespire, taking from twenty to thirty deep respirations in a minute. After five minutes she complained of tingling of the hands and face. After eight minutes she developed a typical carpal spasm of tetany. Subsequently the face muscles became spastic. The Chvostek and Trousseau signs at the time were positive. The urine, before the attack, was acid; five minutes after the onset of the attack, alkaline.

The patient had about ten attacks in nine days while in the hospital. The attacks were more frequent and worse about the time of the menses. The patient said that she could feel the spells coming on. They were likely to occur in a close room when she felt a sense of oppression. She could give no reason for overventilating. She was discharged, October 8. The diagnosis was hysteria, tonsillitis and questionable hyperthyroidism.

The laboratory findings, obtained after one attack, were: urine, alkaline; 5 c.c. of tenth-normal acid in one-half hour; before attack, 11 c.c. in one-half hour. The plasma bicarbonate during two different attacks was 52 and 56 per cent. by volume. The plasma bicarbonate at a "normal" interval was 62 per cent. by volume.

CASE 4.—L. S., a woman, aged 26, with acute pharyngitis, laryngitis, bronchitis and syphilis, entered Barnes Hospital, Feb. 27, 1920. During the course of her illness the patient frequently took rapid, fairly deep respirations, frequently up to 40 a minute.

March 10, she was seen in a period of forced breathing in which she had tingling of the arms, hands and chest for two hours. Then she developed some stiffness in the fingers. This caused the patient considerable worry. The Chvostek and Trousseau signs were suggestive. Freshly voided urine was strongly alkaline to litmus.

March 12, at 11 a. m., the alveolar carbon dioxid during a breathing spell was 18 mm.; at 11:30, 23 mm.; at 11:30 the plasma bicarbonate was 40 per cent. by volume. The urine was strongly alkaline. At 12 o'clock there was complete relaxation; respiration was normal; at 12:10, the alveolar carbon dioxid was 32 mm.; the plasma bicarbonate was 49 per cent. by volume.

March 16, during another deep breathing period, the alveolar carbon dioxid was 18 mm.; the urine was alkaline during the spells, and acid on all other occasions.

CASE 5.—B. E. C., a woman, aged 26, who had influenza with abdominal symptoms of questionable origin, which began, Feb. 10, 1922, with nausea and vomiting, and later was accompanied by soreness in the abdomen, epistaxis, February 19, and an irritating cough, entered Barnes Hospital, February 22. She looked ill; there was blood in the nose from an ulcer in the septum; the pharynx was hyperemic. The temperature was 38.3 C. (101 F.), the respirations 30 a minute and distinctly deepened for rate. There was noted by Dr. House the carpal spasm of tetany. The patient's hands and feet tingled. Half an hour later the tingling and spasm of the hands disappeared, and at the same time respirations were quite normal. The patient's general condition improved in the hospital, and she had no further attacks.

For two days prior to admission she had been having at irregular intervals during the day similar periods in which her hands and feet felt numb, tingled as if they "were asleep," and were rigid. On one occasion her face muscles felt spastic, and she could hardly talk. The patient remembered distinctly that during the latter spell she was overbreathing violently, as she felt that she could not get her breath fast enough. She was considerably alarmed about her condition. No alkalis had been administered.

CASE 6.—A young man at the university hospital, with tuberculosis of the spine, whose case was reported to me by Patient 1, was apprehensive and easily worried. Whenever he expected relatives or when some procedure was done to him, he became excited and began to overbreathe and soon developed carpopedal spasm with beginning general spasticity. This would disappear on cessation of deep breathing. The case was not recognized as tetany, but Patient 1 stated that the condition was exactly the same as in his own case during a gallbladder attack. The patient's neurologic condition was considered as a form of hysteria. There were no laboratory data.

CASES 7, 8, 9, 10 and 11.—All of these were college students who developed tetany during and following a class fight. All these men were out of training and in poor physical condition. Following rather strenuous exercise, each of them became very hyperpneic for from five to ten minutes, and developed visible carpal spasm, with tingling in the extremities, and some rigidity of the face muscles. This condition disappeared on cessation of deep breathing. The men were all taken to the university hospital and examined, and no abnormalities were found. The cases were reported to me by a medical student who was familiar with tetany production and forced respiration.

In none of the cases that I saw was there any evidence of increased muscular irritability, such as a positive Chvostek or Trousseau sign, at any time other than during the periods of forced respiration.

COMMENT

As explained in a previous paper,[1] the tetany of forced respiration is due primarily to an alkalosis in the body.

Forced respiration, by washing out carbon dioxid from the alveoli, reduces the carbon dioxid content of the blood and so tends to make the blood more alkaline than normal. This reduction of carbon dioxid in the blood disturbs the H_2CO_3:$NaHCO_3$ ratio upon which the hydrogen ion concentration depends, and on the reestablishment of this ratio, $NaHCO_3$ passes out of the blood plasma into the tissue, and a considerable portion is excreted by way of the kidneys. Apparently CO_2 may be washed out of the blood more rapidly by overventilation than $NaHCO_3$ is decreased by excretion or other means, for on this assumption alone is it possible to account for the decreased alkalinity actually found in blood during deep respiration.

Some of the cases merit special consideration. Case 1 is of particular interest because of the observation by the patient himself that the overventilation with resultant spasticity distinctly lessened his pain. It was noted in the original experiments that there was marked hypesthesia to needle prick (for withdrawal of blood) at the elbow. Collip and Backus[3] note

3. Collip, J. B., and Backus, P. L.: Am. J. Physiol. 51: 551 (April) 1920.

numbness in the extremities, with almost complete cutaneous anesthesia in some subjects. Just why the patient overbreathed at first is difficult to say, but subsequently he did it purposely during his gallbladder attacks in order to lessen his severe pains. The discomforts of the tetany were negligible to the patient in comparison to the relief he obtained.

Case 2 is of interest because of the association of distinct stomach symptoms with overrespiration and tetany. The patient was nauseated to begin with attributing this to a heavy meal of chop suey. During the attack it was noticed that she had stomach tympany down to the umbilicus. Soon after she was told to stop her deep breathing, and as she began to relax she vomited a large amount of fluid. Whether the nausea, due probably to an overdistended stomach, had anything to do with the beginning of overbreathing, and whether the relief by vomiting had anything to do with the relaxation of the spasm, it is difficult to say. It is of interest, however, to note the association because of the known relation of gastric dilatation to tetany.

Cases 3 and 5, both hysterical subjects, undoubtedly must represent a fairly large class. Abnormalities of respiration are a well known symptom of hysteria. One may be certain that at least some of the cases of "hysterical pseudotetany" are undoubtedly real cases of tetany due to overrespiration. It seems reasonable to suppose that many more of such cases may be attributed to overbreathing, if the type of respiration is studied.

An excessive hyperpnea following the acidosis of exercise explains the cases of tetany developed during the class fight. Collip and Backus suggest that an increased lung ventilation in swimmers and runners may result in temporary alkalosis with resultant "cramps." No cases are cited, however.

Henderson and Haggard [4] demonstrate that excessive hyperpnea may occur during anesthesia. A case was observed by the author during gas anesthesia to show typical carpal spasm with rigidity also of the forearm muscles and muscles of the abdomen. At the time, the subject was violently overbreathing. The case was questionable, because hyperpnea lasted only two and one-half minutes. Plasma bicarbonate during the spasm was 49 per cent. by volume. Taken during a "normal" period, it was 65 per cent. by volume. Collip and Backus suggest that ether spasm may be due to temporary alkalosis from hyperpnea, though no cases are cited.

Obviously, therefore, overrespiration may occur in a large number of conditions. In the classification of tetany by Barnes,[5] there is included, besides infantile tetany and tetany following removal of parathyroid glands, (1) tetany occurring during pregnancy and lactation (2) tetany associated with gastro-intestinal disorders, notably gastric dilatation, colitis and helminthiasis; (3) tetany occurring in acute fevers, and (4) tetany following poisoning by chloroform, morphin, ergot, lead and alcohol. Besides these, other authors add tetany occurring after exercise, excitement, intercourse, etc., and hysterical pseudotetany.

From the variety of clinical cases cited, it is reasonable to assume that many of the cases of tetany that would fall into one of these classes are due really to hyperpnea with resultant alkalosis and tetany.

4. Henderson, Yandell, and Haggard, H. W.: J. Biol. Chem. **33**: 333 (Feb.) 1918.
5. Barnes, A. S.: Oxford Medicine **6**: 992, 1921.

CONCLUSIONS

1. These are the first clinical cases of tetany due to involuntary forced breathing to be reported.
2. Overbreathing sufficient to produce an alkalosis and tetany may occur during an acute disease, such as cholecystitis or influenza; in hysteria and gastric disorders; during and following physical exertion, and questionably during early anesthesia.
3. The tetany resulting from forced respiration produces hypesthesia to pain.
4. The type of breathing in all cases of tetany should be carefully observed.

AUTOHEMO-AGGLUTINATION OF HUMAN RED BLOOD CORPUSCLES

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Authentic records of autohemo-agglutination are so few that some authors doubt its occurrence. Such cases, however, do occur, and recently this phenomenon was observed in a patient by Clough and Richter.[1] In animals, auto-agglutination seems not to be as uncommon as in human beings. In horses, the phenomenon was first observed by Klein,[2] and later studied more carefully by Landsteiner.[3] Ottenberg and Thalhimer [4] observed it in a cat, while Rous and Robertson [5] succeeded in producing this condition experimentally in rabbits.

The observations here recorded were made in the case of a pregnant woman who was very anemic because of repeated bleeding from hemorrhoids. The phenomenon was first observed when blood was taken for a blood count, and knowledge of the work of Rous and Robertson led to a more detailed study of the mechanism of this agglutination in the human being. After the work was completed, I received a copy of the paper by Clough and Richter [1] recording identical observations; but because of the rare occurrence of this phenomenon in human beings, and in view of the different character of the disease with which it was associated, it has been thought worth while to publish the results.

The following is a brief case history of the patient:

A. Y., a Jewish woman, aged 34, married, was admitted to the Rothschild Hospital, Nov. 29, 1920, suffering from a severe anemia, and pregnant in the fifth month. There was nothing of note in either the family history or her previous history, except an attack of malaria four years before and some vague abdominal pains with occasional diarrhea for three months prior to admission. The stools were almost always bloody.

At the time of admission she was suffering from general weakness and insomnia, and examination revealed a compensating heart lesion (mitral insufficiency), a slight hypertrophy of the liver, and hemorrhoids. The stool examination for amebic and bacillary dysentery was negative. The urinalysis, the pulse and temperature were normal.

The blood examination on admission revealed: red cells, 2,556,000; hemoglobin, 60 per cent.; leukocytes, 13,000.

December 26, about one month after admission, blood examination revealed: red cells, 2,500,000; leukocytes, 9,700; hemoglobin, 70 per cent.

1. Clough, M. C., and Richter, I. M.: Bull. Johns Hopkins Hosp. **29**: 326, 1918.
2. Klein, A.: Wien. klin. Wchnschr. **15**: 413, 1901.
3. Landsteiner, K.: München. med. Wchnschr. **50**: 1812, 1903.
4. Ottenberg, R., and Thalhimer, W.: J. M. Res. **33**: 213, 1915.
5. Rous, Peyton, and Robertson, O. H.: J. Exper. Med. **27**: 509 (April) 1918, 563 (May) 1918.

The patient was kept in bed on a nourishing diet and received local treatment by suppositories and ointment for the hemorrhoids, and improvement was noted. Jan. 18, 1921, the patient suddenly became worse, the stools were frequent and bloody, and the abdominal pains increased in intensity. At this time the examination of stools for dysentery (bacillary and amebic) was again negative. An attempt to make a blood count now revealed the auto-agglutination of the red cells, and thereafter repeated observations were made, always with the same finding.

The patient had a normal delivery, April 2, but the phenomenon of auto-agglutination continued until the patient was discharged from the hospital and lost track of.

MECHANISM OF AGGLUTINATION

As stated in the history, the auto-agglutination was first observed when blood was taken for the blood count. At this time it was thought that the pipets or diluting fluids were at fault; but as new trials yielded the same result, it was evident that we were dealing with a case of autohemo-agglutination.

Tests were made to ascertain whether the human agglutinins reacted in a manner similar to the rabbit auto-agglutinins.[6] Landsteiner noted that auto-agglutination occurred only at low temperatures, not at body temperature. It was of first interest to determine whether the same relation would obtain in human auto-agglutination. Blood (about 10 c.c.) was therefore drawn into a warm flask containing glass beads, and rapidly defibrinated. The defibrinated blood was kept at body temperature and was used for various experiments.

EXPERIMENT 1.—*Effect of temperature.* One cubic centimeter of blood was pipetted into each of three tubes; one was left at body temperature, one at room (about 20 C.) and one at 4 C. Within half an hour, complete clumping was noted in the tubes kept at the low temperatures, while no agglutination occurred at 37 C. The blood was left in the incubator over night, but no agglutination was noted. Agglutination which occurred at room temperature was broken up by half an hour at body temperature.

The next experiment was made to determine whether the agglutinins were present in the cells or serum; in other words, whether the agglutination was due to a peculiarity in the cells or to actual agglutinins present in the serum.

EXPERIMENT 2.—*Seat of agglutinins.* A small amount of the defibrinated blood was rapidly centrifuged, the serum pipetted off, and the cells washed thoroughly with saline solution. The combinations given in Table 1 were then made in duplicate, one set being placed in the incubator, the other left at room temperature.

TABLE 1.—CROSS-AGGLUTINATION WITH PATIENT'S AND NORMAL SERUM

	Room Temperature		37 C.	
	Normal Blood Cells	Patient's Blood Cells	Normal Blood Cells	Patient's Blood Cells
Patient's serum	+	+	—	—
Normal serum	—	—	—	—
Saline control	—	—	—	—

It will be observed that both the normal and patient's red blood cells were agglutinated with the patient's serum, while no agglutination occurred with normal serum and patient's cells or in the saline control.

EXPERIMENT 3.—*Agglutination of blood cells of normal individuals.* Blood cells from five normal individuals were also tested with the patient's serum. In each instance, agglutination occurred at room temperature, and the clumps slowly disintegrated when placed at body temperature.

EXPERIMENT 4.—*Titration of agglutinins.* Different dilutions of serum were made to determine the titer. Agglutination was obtained in one hour at room temperature in a dilution of 1:80, while at 1:160 only partial agglutination occurred. Subsequently, new titrations were made with freshly drawn serum, but only slight fluctuations were noted.

TABLE 2.—AGGLUTININ TITER AT DIFFERENT INTERVALS

Date	1/23/20	11/8/20	11/13/20	4/3/21
Dilution	1:160 +	1:80 +	1:160 +	1:160 +

EXPERIMENT 5.—*Effect of mother's serum on child's blood, and vice versa.* April 2, the patient had a normal delivery, and tests were made to ascertain whether the agglutinins were present in the child's blood, as well as the reaction between the blood of mother and offspring. Blood was therefore drawn from the mother and child, and treated as in the previous experiments (Table 3).

TABLE 3.—REACTION BETWEEN BLOOD OF MOTHER AND OFFSPRING

	Room Temperature		37 C.	
	Mother's Blood Cells	Child's Blood Cells	Mother's Blood Cells	Child's Blood Cells
Mother's serum	+	+	—	—
Child's serum	—	—	—	—
Saline solution	—	—	—	—

It will be noted that the agglutinins persisted in the mother's blood even after delivery, and the mother's serum agglutinated the blood cells of the offspring, but that no agglutinins were detected in the child's serum.

SUMMARY

Autohemo-agglutination was observed in a pregnant woman suffering from a chronic heart lesion, and in a condition of severe anemia due to repeated bleeding from hemorrhoids. The auto-agglutination, like that observed by other investigators, occurred only at room temperature and not at 37 C. The agglutinins were present in the serum; the blood cells were normal.

The patient's serum agglutinated the cells of normal individuals as well as its own and those of the infant.

No agglutinins were detected in the infant's serum one week after birth. Passage of agglutinins did not, therefore, occur.

Autohemolysin was not noted at any time during the period that the patient was under observation.

The agglutinins persisted after delivery until the discharge of the patient. Subsequent to discharge, the patient was lost sight of.

The relation of the agglutinins to the disease cannot be determined. The experiments of Robertson and Rous [7] indicate that severe anemia may bear some relation to this condition. In the patient here studied, the anemia was severe and persistent, and due to repeated bleeding, as with the rabbits of the authors mentioned. It is also of interest that this patient, like that of Clough and Richter,[1] suffered from a chronic heart disease.

It is noteworthy that the autohemo-agglutinins, like the autohemolysins observed by Landsteiner in paroxysmal hemoglobinuria, act only at low temperatures. It is conceivable that just as in the latter case hemolysis can be produced by chilling the peripheral vessels, so in the former condition chilling will produce clumping of the red cells. Such clumping would, however, be only temporary, since the clumps are disintegrated by warming.

6. Rous, Peyton, and Robertson, O. H.: Footnote 5, first reference.

7. Robertson, O. H., and Rous, Peyton: Footnote 5, second reference.

INTESTINAL PARASITES AS A FREQUENT CAUSE OF UNDIAGNOSED MALADIES IN CHILDREN

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The general practitioner, more especially if he is engaged in active rural practice, is frequently confronted with the problem of diagnosis without the assistance of various instruments of precision, laboratory reports or competent medical and surgical consultation. Too often a correct diagnosis is carelessly made incidental and secondary to therapeutic administration. While the physician is primarily to blame for this reversed condition, the patient invites neglect by refusing to be examined or to allow an ordinary scientific investigation.

It is not uncommon for a patient to assert that he thinks a physical examination valueless and laboratory or bedside technic superfluous. His untrained status is exhibited in the thought that a quick history and an indifferent inspection should suffice. The foregoing is often responsible for such absurd diagnoses as "bad liver," "enlarged spleen," "bad kidneys," "nervous indigestion" and "worms." It is often apparent that patients prefer a prompt, unintelligent and ill-defined diagnosis to a delayed diagnosis born of sincere investigation and collected data.

It is most interesting to note the similarity of symptoms of many diseases. This is particularly true with children.

I know of no other condition which is so often suggestive of various diseases and invariably overlooked by the physician because of the desire to exact from him a first visit diagnosis. In any given case in which a child presents a chain of vague and indefinite symptoms, it is very important to reserve a diagnosis for ruling out parasitic infection as a possible causative factor. I am of the opinion that medical colleges pay too little attention to the diagnosis and treatment of intestinal parasites. Pediatricians are wont to exclaim that intestinal parasites are most often diagnosed by the presence of the parasites or their ova in the stools. I do not agree with a leading pediatrician that "the frequency of the occurrence of intestinal parasites has unquestionably diminished greatly." This may be true of the urban child, but it is certainly not true of the rural child. The diminution is more apparent than real. If a careful analysis were made of all the stools when suggestive symptoms of parasitic infection are presented, I am sure that the percentage of diagnosis of intestinal parasites would be much higher than is generally credited.

Much is seen in the literature about the "acute abdomen." In differentiating and mentally racing up the most common causes of the "acute abdomen," the physician or surgeon usually considers acute infections of the appendix and gallbladder, perforation of a duodenal, gastric or typhoid ulcer, intestinal obstruction, and acute dilatation of the stomach following operation. But how many ever seriously consider intestinal parasites as a possible source of acute abdominal conditions? On two occasions I have witnessed a surgeon much chagrined because he found a large mass of roundworms causing the very symptoms he thought to be indicative of acute appendicitis, for which he had operated.

To illustrate more fully the importance of considering intestinal parasites in differential diagnosis I report five cases:

REPORT OF CASES

CASE 1.—C. B., a boy, aged 10, complained for several days of feelings of lassitude and inaptitude for school work. His previous health had been good. He next complained of a severe occipital headache and abdominal pain. Four days from the onset of the initial symptoms, there were occipital headache, abdominal pain, vomiting, anorexia, tympanites, epistaxis, cheeks flushed, toxic, tongue heavily coated, foul breath, and a decided diarrhea. A tentative diagnosis of typhoid fever was made. There was a mottling of the skin on the abdomen, but no evidence of rose spots. The Widal reaction was negative, as was the blood culture for typhoid bacilli, paratyphoid A and B, and colon bacilli. The diazo-reaction for a typhoid urine was negative. There was a decided indicanuria. The temperature, which had been from 104 to 105, had a morning remission of 1 or 2 degrees. The headache, abdominal pain, tympanites and temperature were constant symptoms. Ten days after the initial onset, the patient passed an immense roundworm. Castor oil was given that night, followed the next morning with santonin and calomel. In a few hours the patient passed twenty-seven huge roundworms. The patient's condition became decidedly better, and the temperature dropping to normal. Cessation of all pain was immediate, and there was a prompt and uneventful recovery.

CASE 2.—C. M., a girl, aged 6, when first seen was vomiting a fluid of greenish hue that had a distinct fecal odor. There were severe abdominal pain and marked distention. There had been no evacuation of the bowels for two days. The temperature was subnormal and the pulse rate rapid. Respiration was labored and accelerated. A diagnosis of intestinal obstruction, intussusception, was made, and a surgical operation advised. Operation revealed a large mass of roundworms coiled about a fecal impaction.

CASE 3.—A. W., a girl, aged 3, had been, apparently, well up to the sudden onset of twitching of the body, which became severe and convulsive. The temperature was normal and there was a history of free evacuation of the bowels. Physical examination was otherwise negative. The convulsions became so severe that chloral and bromids were administered by the rectum. The convulsions continued, but became less severe. A history of intestinal parasites prompted me to administer castor oil, followed by santonin. There was an expulsion of twenty medium sized roundworms, with a speedy cessation of convulsions and recovery.

CASE 4.—F. C., a boy, aged 7, for several days complained of pain in the stomach. There later developed a sensation of choking, with a desire to vomit. There was difficulty in swallowing. There was a profuse outpouring of saliva suggestive of salivation. During an attack of vomiting, two roundworms were thrown off, and recovery was prompt.

CASE 5.—L. D., a girl, aged 4, was extremely toxic, with a temperature of 104 or 105 for six days. No other symptoms were present. Physical examination revealed nothing. Castor oil and santonin were administered. A large number of roundworms were expelled, with a most prompt recovery.

Syphilis in Persia.—C. Christidi of Constantinople writes to the *Presse médicale* to comment on the extreme prevalence of syphilis in Persia and its exceptionally mild form. When Europeans contract it from a native it takes a similarly mild form, but in natives and others contracting syphilis imported by a European, the course is the usual evolution seen elsewhere. Among the 3,000 Persian syphilitics he encountered, barely fifty had taken any regular treatment; the others failed to return for treatment after the first manifestations had subsided, but the Wassermann reaction is negative in a year or two as the rule. The archeologic collections contain many representations of syphilitic lesions, and Christidi is inclined to believe that the spirochetes of syphilis have become attenuated during the centuries, as the evidence has convinced him that syphilis was known in Asia for centuries before it appeared in Europe.

REMOVAL OF DIPHTHERITIC EXUDATE FROM THE LARYNX

EMPLOYMENT OF AN APPLICATOR FOR THE PURPOSE OF AVOIDING INTUBATION

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The chief problem that confronts those dealing with the treatment of diphtheria is how to reduce the mortality in the laryngeal form, especially in cases in which intubation is performed. In the latter, several factors further complicate the situation. There are the difficulty of taking nourishment; the increased flow of saliva caused by the irritation of the tube and the consequent coughing, which add much to the child's discomfort; also the extreme restlessness that so frequently follows intubation, especially in younger children. All of these tend to lower the child's resistance and render him less able to resist the disease. Further, the susceptibility to bronchopneumonia is greatly increased. This complication accounts for most of the deaths in the laryngeal form. Finally, a patient requiring intubation may develop complications which necessitate the permanent wearing of the tube. The management of a "chronic tube" case taxes the physician's ingenuity to the utmost. Anything that will tend to protect the patient from all these dangers is welcome.

In taking cultures directly from the larynx, we were frequently struck by the fact that, in a large number of cases, the dyspnea was caused either by loose membrane which was drawn into the lumen of the larynx by inspiration, thus occluding it, or by a thick mucopurulent material which the patient seemed unable to cough up. In only a small number of cases was the dyspnea due to the attached membrane alone or to an inflammatory stenosis. It was further noticed that this loose membrane came away frequently on the swab; the coughing that followed the withdrawal of the swab frequently expelled the mucus, with the result that the child, who was sometimes ready for intubation, received immediate marked relief; this relief lasted in some cases for six to ten hours. It then occurred to us that, if some means could be devised whereby this obstructive material, which tends to re-collect after a number of hours, could be more thoroughly removed, many patients could be saved from intubation.[1]

A straight applicator with a screw clasp on the tip, to which a piece of gauze could be firmly attached so as to prevent its being lost in the larynx, proved suitable. The gauze plug was just large enough to pass into the lumen of the larynx without using force. A strip of ¼ inch packing folded two or three times upon itself answered the purpose well. Under direct laryngoscopy this was passed into the larynx just below the cords, and immediately withdrawn. The withdrawal of the swab, acting somewhat like the plunger in a syringe, brought with it a large amount of the mucus and frequently good sized pieces of loose membrane. In a few cases a complete cast was removed. The remaining mucus was effectually removed by the coughing that followed.

1. The average time of intubation in cases of laryngeal diphtheria is six hours after admission. With the use of antitoxin intravenously, only a small number of the patients that require intubation need it after the first twelve hours (twenty-two out of 286 patients who underwent intubation).

The result of this procedure was surprising in many cases; patients that were cyanotic and perspiring received as much relief as from intubation—relief that lasted from eight to ten hours, and in some cases was permanent. During this period the child could take nourishment easily, had several hours' uninterrupted sleep and, as a result, his general condition remained much better than if intubation had been done. Usually the applicator treatment had to be repeated two or three times and, in two cases, four times. Two cases complicated by pneumonia were thus treated. The treatments were successful in that they made intubation unnecessary. One patient that had a consolidation of one lung died about twenty-four hours after admission; the other recovered. The youngest patient treated was a child, aged 7 months. In this case one treatment was sufficient, and the child went on to recovery. The oldest child was 12 years old, and had been brought to the hospital in an almost moribund condition. She obtained such relief from this treatment that later she asked to have it repeated. She also recovered.

In no case did we see pneumonia develop as a result of the treatment, nor did any accident occur from pushing the membrane down the trachea. It was noted, further, that aphonia disappeared earlier in these patients than in those in whom intubation was performed. Only those patients were treated that in our opinion would otherwise have required intubation. On admission all laryngeal patients received 5,000 units of antitoxin intravenously.

The total number of patients treated was fifty-three. Of these, thirty-seven were enabled to go without tubes; in sixteen cases, no marked relief was obtained, owing to the presence of an inflammatory stenosis. Of the sixteen, three had undergone intubation by the family physician and had worn their tubes several hours before admission to the hospital. The tubes were then removed, and an attempt was made to clear the larynx; but we have found that, when a tube has been worn for some time, a considerable amount of local reaction has already developed in most cases. Favorable results with the applicator treatment have not, as a rule, been obtained in these patients.

The results of the applicator treatment are given in the accompanying table in comparison with the figures of the corresponding three months (October, November and December) of the previous year.

RESULTS OF APPLICATOR TREATMENT

	1919	1920
Number of cases of diphtheritic laryngitis	159	132
Patient neither intubated nor treated with applicator	84	79
Patients intubated	75	16
Patients receiving applicator treatment (not intubated)	0	37
Total number of deaths	42	20
Mortality	26%	15%

Of the seventy-nine patients in 1920 that were treated neither with intubation nor with the applicator, nine died—three of sepsis and bronchopneumonia, and six of bronchopneumonia.

Among the sixteen patients that received intubation there was a mortality of ten (due to bronchopneumonia).

Of the thirty-seven receiving the applicator treatment, one died (of bronchopneumonia).

It will be seen from this table that there has been a marked reduction in the number of patients receiving intubation and a considerably lower mortality. It is

our belief that were this procedure carried out systematically, it would materially assist in lowering the mortality in this type of case. It is a method, however, that makes great demands on the time of the physician, and requires his constant care and supervision. We do not advise the removal of the material from the larynx by any other than the direct method, as otherwise more harm than good is likely to be achieved. Further, it is hardly necessary to add that the direct method should be attempted only by those experienced in laryngoscopy and intubation.

PHENOBARBITAL (LUMINAL) POISONING

REPORT OF CASE

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Within the last two or three years phenobarbital (luminal) has been used extensively as a hypnotic and sedative in various nervous conditions. In May, 1913, this drug was thus described in the "New and Non-official Remedies" department of THE JOURNAL:[1]

> It has a sedative action on respiration, lessening the frequency of breathing, although the volume of each respiration is increased. It kills by respiratory paralysis. It is eliminated by the kidneys, a certain portion being probably decomposed in the organism. No injury to the kidneys or gastric disturbance has been observed.
>
> Luminal is claimed to be a useful hypnotic in nervous insomnia and conditions of excitement of the nervous system.
>
> *Dosage.*—From 0.2 to 0.3 Gm. (3 to 5 grains) increased if necessary to 0.8 Gm. (12 grains). A maximum dose of 0.8 Gm. (12 grains) should not be exceeded. Smaller doses are sometimes efficient.

Sollmann[2] mentions the fact that the hypnotic and fatal doses are close together and that the circulatory depression is severe. Taddei, in 1913, protested against its use as too dangerous; and, although since that time various other writers have called attention to the occurrence of severe dermatitis with alarming symptoms following the administration of phenobarbital, but little attention has been paid to these warnings of danger.

Since Grinker[3] called attention to the beneficial results from its use in cases of epilepsy, phenobarbital has been employed by a great many physicians in the treatment of that disease and of other nervous disorders. The dosage in many of these cases has been so large, and the drug has been administered over such a long period of time, that it seems appropriate to call attention to the following case in which severe dermatitis with fever, sore throat, severe gastro-intestinal symptoms and nephritis resulted from the use of this drug and to review reports of similar cases reported in the literature.

REPORT OF CASE

A woman, aged 45, had suffered for a number of years from bronchial asthma. Various forms of treatment had been tried—change of climate, use of iodids, etc.—but the only medication that gave any relief from the attacks was the hypodermic administration of epinephrin. During the preceding three years, she had taken nightly from one to three doses of 7 minims (0.5 c.c.) each, except during short intervals when she was comparatively free from the disease. I saw this patient first, Jan. 24, 1922. In an attempt to secure more rest and to eliminate the use of epinephrin, phenobarbital, 1½ grains (0.1 gm.) was prescribed to be taken at bedtime. As a result, the patient slept better and was able to get along with less epinephrin. After she had taken eight doses or 12 grains of phenobarbital over a period of eight days, the patient developed over the entire body a morbilliform eruption, which appeared first on the face about the eyes, and on the neck, but within forty-eight hours had spread over the trunk and to the extremities, even affecting the fingers. The face was considerably swollen, the conjunctivae were reddened, and finally the eruption on the face became confluent. There was no circumoral pallor, such as is seen in scarlet fever. The lesions on the trunk and extremities were discrete and papular, and were larger than the lesions in measles. The papules were very firm to the touch, and the skin between them was reddened. There was marked burning and itching of the skin. The mucous membrane in the mouth and throat was bright red, the tonsils were somewhat swollen, and on the sides of the cheek between the latter and the gums, little flecks of white appeared on the mucous membrane. The tongue was dry, coated and slightly swollen. The patient complained a great deal of dryness and burning in the throat. The glands in the neck, particularly those at the angle of the jaw, showed some enlargement. At the same time the patient developed pain in the epigastrium with persistent nausea and vomiting, which lasted four days. There was slight distention of the abdomen, but no localized tenderness or rigidity. Diarrhea was not present but the stools contained some mucus. The urine was very highly colored, and an examination on the third day of the eruption revealed an acid reaction with specific gravity 1.010, a very heavy trace of albumin, no sugar, and a faint trace of bile. Microscopic examination of the urinary sediment revealed a few red blood corpuscles, a few leukocytes, a number of epithelial cells, and many finely granular casts. The leukocyte count was 8,000. The temperature on the first day of the illness was 102 F.; on the second day 103.6, and on the fourth day 105.2, after which it gradually declined to normal. There was nothing unusual about the pulse except that the increased rate corresponded to the increase in temperature.

The rash began to subside on the fourth day, its color gradually fading out with a fine, branny desquamation on the seventh day. With the subsidence of the eruption, the itching of the skin disappeared, and the inflammation of the mucous membrane of the mouth and throat gradually disappeared. The patient was very much prostrated after the drop in temperature. The urine quickly cleared up, and on the tenth day after the eruption appeared, albumin had disappeared except for a very faint trace, and no casts could be found.

CASES REPORTED IN THE LITERATURE

Farnell,[4] in one of the earliest papers calling attention to the toxic effects of phenobarbital, reports two cases of phenobarbital poisoning in which the toxic symptoms lasted from twelve to thirty-six hours:

> A woman, aged 24, was given 0.3 gm. (4½ grains) of phenobarbital as a sedative, with directions to repeat the dose in forty-eight hours. She waited only twenty-four hours before taking the second dose. She slept until 10 o'clock the following morning, when she was awakened, and showed evidences of toxemia, paraphasia, ataxia, inability to stand without support, dilated pupils, and diminution in knee jerks. There was no disturbance of sensation, and the symptoms disappeared in twelve hours.
>
> A woman, aged 35, who was given 0.6 gm. (9 grains) of phenobarbital at 10 p. m. as a sleeping medicine, received a second dose of 0.3 gm. (4½ grains) one hour later. At 2 a. m. the patient was still awake and asked for more, but instead was given 0.2 gm. (3 grains) of barbital (veronal). She went to sleep at 4 a. m. and was awakened at 10, still very sleepy and showing difficulty in articulation, with poor

1. Luminal, J. A. M. A. **60**: 1541 (May 17) 1913.
2. Sollmann, Torald: A Manual of Pharmacology and Its Applications to Therapeutics and Toxicology, Philadelphia, W. B. Saunders Company, 1917, p. 600.
3. Grinker, Julius: Experiences with Luminal in Epilepsy, J. A. M. A. **75**: 588 (Aug. 28) 1920.
4. Farnell, F. J.: Luminal: Its Toxic Effects, J. A. M. A. **61**: 192 (July 19) 1913.

pronunciation of her words, and marked ataxia. Her gait was unsteady and she had a tendency to fall. She had symptoms of gastro-intestinal disturbances, and the knee jerks were absent. The duration of the disturbance was about forty-eight hours.

Blichert,[5] in describing the by-effects of phenobarbital, states that, in five of the thirteen cases in which he had administered this new hypnotic, signs of intoxication were evidenced. In two, apparently no effect was produced. In six, in addition to the anticipated action, there were certain by-effects, and in five cases there were unmistakable signs of toxic action, appearing in one after two weeks, and earlier in the other four cases. In three of the latter, the phenobarbital had no therapeutic effect at all. Blichert cites two cases of phenobarbital eruptions among 150 patients reported on by Eder, and two cases among seventy-two patients reported on by Graeffner. In Blichert's series, the eruption occurred in three of the four cases in which the drug produced marked toxic action. In these cases the exanthem was very pronounced, and in one instance, after it had subsided, it reappeared in full intensity after a week's interval without any of the drug having been given in the interim. Blichert's dosage was from 0.2 to 0.3 gm. (3 to 4½ grains) two or three times a day, or 0.1 gm. (1½ grains) in the morning, and 0.2 (3 grains) in the evening. In some of the cases, barbital was taken coincidently or alternating with the phenobarbital, but in two of the patients in whom the toxic action was most pronounced only phenobarbital had been given.

Ungar[6] makes the occurrence of a nearly fatal outcome, after the ingestion by a patient of 2.4 gm. (37 grains) of phenobarbital, the text for a discussion of the use of the drug; the uncertain results of small doses, and the poisonous effect of larger doses. He calls attention to the fact that small doses often show a cumulative action.

In Ungar's case the outstanding feature was the amaurosis, which resembled that produced by methyl alcohol, excepting that in alcohol poisoning changes in the optic nerve are demonstrable, while in this case the eye grounds showed no alteration.

Ungar deplores the fact that the dispensing of this drug is not sufficiently guarded.

Hueber[7] reports the case of a man, aged 40, who had had epileptic attacks since his tenth year.

May 11, the author prescribed phenobarbital sodium in 0.5 gm. (7⅞ grain) tablets. By June 10, the patient had taken a total of thirty tablets, or 15 gm. (231 grains). June 10, a papular eczema appeared on the nape of the neck and on the back of the hands between the thumbs and forefingers. Up to this time, the patient had had no epileptic attacks, and the author warned him not to stop the tablets, but does not state what dosage was continued. June 14 and 15, the patient had anuria for twenty-four hours, and at the same time an eruption like that of measles appeared on the whole body. The lips were swollen, the eyelids edematous, and the patient became quite drowsy in contrast to the earlier weeks, during which the phenobarbital had not caused any periods of sleepiness. In the first urine that was passed, there were no casts. Hueber states that "this was a great comfort to me, for I had assumed an onset of acute nephrosis." On the next day, the eruption was in large spots, dark in the center, surrounded by a bright red areola with a dark red rim. The spots were separated only on the trunk. On the forehead, back of the elbows, and from the navel downward, the spots flowed together into a single red, densely infiltrated surface. On the right foot and over the whole calf there was marked edema. The edema on the left leg was confined to the outer part of the foot, where the eruption was hemorrhagic. On pressure over the spots on the trunk, only a central light yellow spot remained, but pressure did not change the appearance of the eruption on the foot. Finally, the eruption took on the character of a chronic, infiltrated, desquamating eczema covering the whole body, including even the palms of the hands and soles of the feet. Desquamation, during which the skin was shed in great shreds, was completed by a full plunge bath.

For the supposed nephrosis, Hueber prescribed rest in bed and limited fluid, with a resultant increase in the urinary secretion of 0.5 or 0.75 liter to 1 liter (quart) on the fourth day. As a result of elevating the legs, the edema entirely disappeared by the end of the first six days. June 23, the eruption began to return with fever, cough and expectoration. Signs of an inactive tuberculosis developed in both lungs. A high fever developed; clots of blood appeared in the expectoration, and finally the patient became delirious. Death followed an injection of morphin after the alarming symptoms of tuberculosis had lasted ten days.

Hueber states that this whole picture indicated an alteration of the cutaneous vessels—a capillaritis which, as was indicated by the anuria and oliguria, as well as by the edema of the legs, attacked the internal organs also. The reaction in the lungs, i. e., the increased secretion and the numerous râles, is analogous to the reaction to tuberculin injection. Although Hueber made the diagnosis of tuberculosis, in the absence of the finding of tuberculous bacilli in the sputum, the question might very well be raised as to whether the pulmonary symptoms were not the result of the irritation from the phenobarbital poisoning.

Haug[8] describes two epileptic patients—women—one with status epilepticus, for each of whom he prescribed phenobarbital, 0.1 gm. three times a day (a daily dose of 4½ grains).

The first patient, four weeks after beginning treatment, having taken 8.4 gm. of phenobarbital (130 grains) suddenly developed high fever, diarrhea with bloody mucus, and an eruption like that of scarlet fever over the whole body with the exception of the hands and face; she appeared very ill and was in a light stupor. Two days after the phenobarbital treatment was stopped, the fever left, and the eruption disappeared.

The second patient, after taking phenobarbital for eleven days, a total of 3.3 gm. (51 grains), developed high fever, a scarlatiniform eruption, mucous diarrhea without blood, albuminuria, and severe sensory disturbances. The symptoms disappeared within a few days after the medication had stopped.

In discussing these cases, Haug remarks upon the small dosage which produced the condition. He thinks that the explanation of the occurrence in these cases was the undernourished and generally exhausted condition produced by the epileptic attacks, and that the dosage should be reduced to from 0.2 to 0.25 gm. (3 to 4 grains).

Stein[9] reports a case of phenobarbital poisoning in a strong, well nourished man, aged 48, who, after taking a single dose of 0.3 gm. (4½ grains) of phenobarbital, experienced severe dizziness with nausea, clouded vision and diplopia. Three hours later his appearance became so alarming that injections of caffein sodiobenzoate became necessary. His recovery was complete the following day. The author warns

5. Blichert: Ugesk. f. Læger **75**:1149, 1913.
6. Ungar, J.: Wien. klin. Wchnschr. **27**: 847, 1914.
7. Hueber: München. med. Wchnschr. **66**: 1090, 1919.
8. Haug: München. med. Wchnschr. **66**: 1494, 1919.
9. Stein: Therap. Halbmonatsh. **34**: 387, 1920.

against the prescription, under any circumstances, of a dose of phenobarbital exceeding 0.1 gm. (1½ grains), and states that the prepared tablets which are dispensed by apothecaries and contain 0.3 gm. (4½ grains) should be done away with to avoid errors. He states further that the maximum dose of 0.3 gm. (4½ grains) should be prescribed only in exceptional cases, and quotes the warnings of Hauptman, Stockmeyer and Borner against the possible danger of large doses.

Zimmerman [10] calls attention to the necessity of greater care in dispensing phenobarbital, and urges that this drug should not be dispensed by apothecaries without a prescription from a physician.

He reports that in his absence his wife one evening took four phenobarbital tablets of 0.3 gm. (4½ grains) each at one hour intervals, having secured these tablets from an apothecary who would not dispense the barbital she asked for without a prescription. The apothecary did not give her any information regarding the proper dosage, nor was any dosage noted on the label of the package. When the patient went to sleep, she had exciting dreams, and at 7 o'clock in the morning was awakened by violent nausea. She was much weakened, could not stand up, and could utter only indistinct single syllables. She slept again until 3:30 p. m., when she wakened with a severe headache and vomited at intervals until late in the evening. On the following day she still had severe headache and dizziness, with fainting spells. On the second day she could neither move nor answer questions, although hearing and sight were unimpaired. These unpleasant symptoms lasted for a whole week. Five days later on awakening she again experienced a spasm, in which, in spite of strong attempts, she was unable to move her legs. After eight days, a very irritating eruption of the skin appeared which lasted for several days.

Weber [11] follows a report of three cases of epilepsy in which phenobarbital was successfully used by a report of two cases of phenobarbital exanthem with angina and fever. The temperature chart of one of these cases strikingly resembles that of the case that I reported.

CONCLUSIONS

1. In view of the severe skin rashes, gastro-intestinal symptoms and nephritis that may develop as the result of the use of phenobarbital, this drug should be administered with great care.

2. Since there is little difference between the therapeutic and fatal dose, phenobarbital should not be prescribed in single doses of more than 1½ grains (0.1 gm.), and not more than 3 grains (0.2 gm.) should be taken in twenty-four hours.

3. A patient under phenobarbital treatment should be instructed that, on the first appearance of a skin rash or of any untoward symptoms, he should stop the drug and report to his physician at once.

4. The urine of a patient under phenobarbital treatment should be examined once or twice a week.

5. Phenobarbital should not be dispensed by druggists except on the prescription of a physician.

10. Zimmermann: Therap. Halbmonatsh. **34**: 79, 1920.
11. Weber: Therap. Halbmonatsh. **15**: 467, 1921.

Pellagra in Italy.—Our Italian exchange *Lavoro* publishes an account of the report recently issued on the results of investigation of pellagra in Italy by an official committee of nine members appointed in 1910 for the purpose. It has been found that the incidence of pellagra declined during the war, and this is ascribed to the changes in the quality of the food for various reasons connected with the war, especially the scarcity of corn.

Clinical Notes, Suggestions, and New Instruments

A CASE OF LARVAE IN THE MALE URETHRA*

WILLIAM J. EZICKSON, M.D., PHILADELPHIA
Instructor in Urology, Graduate School of Medicine of the University of Pennsylvania

About 2 o'clock in the afternoon of Sept. 10, 1920, D. W. A., aged 31, married, a tailor, came into my office complaining of intense itching in the urethra, and stated also that he could squeeze out some "white stuff." Believing I was dealing with a urethritis, I proceeded to prepare a slide in order to make a smear. When I squeezed the urethra for a drop, several small, wormlike objects crawled out of the meatus. I managed to catch one on the slide and preserved it in balsam.

The man stated that he first felt this itching on arising that morning. He denied venereal infection at any time, and had not noticed the present symptoms before. On examining his wife I found no symptoms referable to the vagina or urethra, and no specimen like that in the patient.

The slide was examined by Dr. Case at the Polyclinic Laboratories, and by Dr. McFarland at the University Laboratories, who detected larvae but could not tell of what species. The entomologist at the Academy of Natural Science was unable to identify the species of larva.

After one irrigation of the urethra with a 1:4,000 potassium permanganate solution, the man had no further symptoms. The mode of implantation and the species of larva remain a mystery.

Most of the cases of larvae in man referred to in the literature are of larvae found in the excreta and the vomitus, having been ingested with food or drink. The larvae mentioned are those of *Eristalis, Piophila casei* and two species of *Fannia*. The best authenticated cases of myiasis of the urinary passage have been due to larvae of *Fannia*. Chevril (1909) compiled and described twenty cases, of which seven seemed beyond doubt. The larvae of the common house-fly are occasionally recorded as having been passed with the feces or vomit of man.

The larvae of *Chrysomyia macellaria* have been found in the nasal passages and sinuses. Larvae have also been found in the ears and eyes. The larvae of *Sarcophaga* have been reported in the vomitus, in external malignant tumors and in the vagina of girls and women who have lain naked in the summer days on dirty clothes, or when they have had a discharge from the vagina, the fly being attracted by the odor and depositing its eggs.

1624 Spruce Street.

* Read before the Pathological Society of Philadelphia, March 23, 1922.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

BENZOCAINE (See New and Nonofficial Remedies, 1922, p. 39).

Benzocaine-Seydel.—A brand of benzocaine-N. N R.
Manufactured by The Seydel Manufacturing Company, Jersey City, N. J. No. U. S. patent or trademark.

PROCAINE (See New and Nonofficial Remedies, 1922, p. 35).

Ven Sterile Solution Procaine 1 Cc.: Each ampule contains 1 Cc. of a 1 per cent. solution of procaine-N. N. R.
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SATURDAY, APRIL 22, 1922

THE ST. LOUIS SESSION

The splendid cooperation given by the Local Committee of Arrangements for the St. Louis Annual Session to the officers of the American Medical Association is full of promise for a successful and enjoyable meeting. The announcements which appear in this, the St. Louis, number of THE JOURNAL are further evidence of the excellent work done by this committee in arranging for the Session. The social events include numerous functions during each day of the session and a full program for the entertainment of the ladies during the hours that will be devoted to section work by the Fellows. One feature is a unique open air opera performance which has been secured especially for the visitors to this session of the Association. St. Louis is advantageously situated to make the meeting a truly national one. It is a railroad center, easy of access from the North, South, East and West, and the passenger associations have announced special round-trip rates which may be secured on presentation of the usual identification certificate. There need be no fear of hot weather; the temperature in St. Louis in May generally is delightful. The Committee on Hotels announces that the reservations indicate an unusually large attendance. While some of the more popular hotels have made reservations to their capacity, this committee, with the assistance of the Convention Publicity and Tourist Bureau, is arranging so that comfortable quarters will be available for all who attend the session.

The halls and meeting places are grouped about a center located at Grand Avenue and Olive Street. The most distant hall from that point is approximately six blocks, most of the meeting places being within two or three blocks of the center named.

Plans are being perfected to broadcast by radio the music and addresses delivered at the opening general meeting of the Association.

THE NATURE OF RHYTHMIC CONTRACTIONS

The fact that the isolated heart, detached from its connections with the central nervous system, can continue to beat with regularity gave rise long ago to the assumption that the function of the cardiac musculature is independent of nervous regulation so far as its automatic rhythmicity is concerned. But the cardiac tissue includes nerve cells or ganglions as well as muscle cells, so that the question was soon raised whether the latter may not, after all, "act as the servants of the local ganglion cells, just as the voluntary muscles wait on the commands of the cells in the spinal cord and brain." The uncertainty with respect to the answer as to the primary cause of such automatic contraction is responsible for the long debate regarding the neurogenic and myogenic theories of the origin and conduction of the heart beat. It is still undecided; at any rate, one of the most recent reviews[1] states that the myogenic-neurogenic controversy becomes a question to be decided by the histologist and the neurologist, and is a matter of the fundamental nature of the "neuromuscular" tissues composing these structures. Recognition of this fact is perhaps no better expressed than by the great reduction of contributions to the literature, during the last ten years, concerning this prolonged and formerly active physiologic controversy. According to this view, we are further told, the tissues comprising the two nodes and the bundle, with its ventricular connections, are to be regarded as that part of the heart which serves the function of initiating the excitation (property of automaticity or response to the "inner stimulus") and distributing it in a coordinated manner to the musculature of the auricles and ventricles, the main function of which is contraction.

The elucidation of the nature of cardiac function is not merely of academic interest. It is closely related to many questions of the pathologic physiology of the heart, such as are presented by auricular fibrillation and by other abnormalities which the use of the electrocardiograph and other technical aids to diagnosis have brought into prominence. The pharmacology of cardiac drugs and the rational therapy of the neuromuscular affections of the heart take cognizance of the theories of muscular function. This is similarly true in the case of another prominent system—the gastrointestinal musculature—which likewise is subject to "independent" rhythms that raise anew the question of myogenic and neurogenic origin, respectively.

Bayliss and Starling of London, who have been pioneers in the study of intestinal movement, have long championed the view that the rhythmic contractions of the bowel are myogenic in nature: that they are propagated from muscle fiber to muscle fiber. Most writers, on the other hand, have argued for the neurogenic

1. Eyster, J. A. E., and Meek, W. J.: The Origin and Conduction of the Heart Beat, Physiol. Rev. 1: 1 (Jan.) 1921.

origin of the rhythmic contractions of the intestine. In an elaborate review of the subject, supplemented by experimental evidence of their own, Alvarez and Mahoney [2] of the University of California now conclude that "there is no need of looking beyond the muscle for the source of the rhythm." They admit that in most cases the muscle works better for the presence of its nervous plexus. The immediate effect of the removal of the nerves is shock and spastic paralysis; and, when that is recovered from, one cannot expect the tissue to work quite so well as it did normally. The conduction from muscle bundle to muscle bundle must remain impaired.

It is assuredly most appropriate to call attention to the importance of muscle as well as nerve tissue in the study of rhythmic functions. However, the history of physiologic controversies, such as have been waged intermittently in connection with the theory of the heart beat, should warn us not to be too dogmatic. It may be, as the California investigators feel, that the tendency to push the explanation for vital phenomena out of the organs in which they might be studied and into elusive little ganglion cells is often unfortunate, and conducive more to stagnation of thought than to advancement of knowledge. In any event, however, the application of a new method of study, electrogastrography, which Alvarez [3] has described in THE JOURNAL, may help to elucidate the problems of alimentary functions somewhat as electrocardiography has done for the heart. Already the use of such expressions as "gastric pacemaker" and "pyloric block" affords a reminder of the analogous problems often discussed by the modern electrocardiographer; and it gives some hope that the pathology of peristalsis and related phenomena may presently be subjected to that accurate sort of interpretation which is made possible by methods of scientific precision.

2. Alvarez, W. C., and Mahoney, Lucille J.: The Myogenic Nature of the Rhythmic Contractions of the Intestine, Am. J. Physiol. **59**: 421 (Feb.) 1922.

3. Alvarez, W. C.: The Electrogastrogram and What It Shows, J. A. M. A. **78**: 116 (April 15) 1922.

RECENT OBSERVATIONS ON YAWS (FRAMBESIA TROPICA)

When Ehrlich undertook his original studies leading to the discovery of arsphenamin, he undoubtedly was stimulated by a hope that had long inspired students of therapy—the hope of finding a *therapia sterilisans magna*, a treatment that would require only a single large dose to destroy the parasitic invaders of the body. In this he was partially defeated, and consequently the promises based on the original experiments on animals were not realized, because the therapeutic dose appears to fail to reach some of the spirochetes, which may hide in the tissues and become responsible for unanticipated relapses.

There is one disease, however, in which it has been believed that the *therapia sterilisans* in Ehrlich's meaning may be capable of realization. In frambesia tropica, the tropical specific infectious and contagious disease caused by *Spirochaeta pertenuis* and often called yaws, the administration of arsphenamin was first tested by Nichols in the experimental disease induced in monkeys, and by Strong in the treatment of the disease in man, and the results have been most striking.[1] The commission sent by the School of Tropical Medicine at Harvard University during the summer of 1920 to study yaws in the Dominican Republic [2] has just reported its experience in the treatment of the disease with neo-arsphenamin. Despite the fact that the commission was working under field conditions of the most unsatisfactory sort, with no facilities whatever for hospitalizing patients, the benefits of the treatment were unquestionably good.

It has been asserted that 90 per cent. of the cases of yaws can be cured by a single injection of arsphenamin. Moss and Bigelow [2] could not secure an equally successful outcome with neo-arsphenamin under the conditions in which they were compelled to undertake treatment. In many cases—and hundreds were observed—it was found necessary to repeat the injections. This might not have been the outcome if a longer interval between the treatments had been allowed, and if a larger adult dose (0.9 gm. instead of 0.6 gm. of neo-arsphenamin) had been employed. Nevertheless, the Harvard commission expresses its belief, as the outcome of an unusual experience in the West Indies, that Ehrlich's ideal of "sterilisatio magna" is more nearly obtained with arsphenamin or neo-arsphenamin in yaws than in the treatment of any other disease. Thus, in one series of 570 cases, only one patient (a "gomma" case) showed no improvement after three injections, and only ten patients (three "gomma" and seven clavus cases) showed no improvement after two injections. This, Moss and Bigelow add, is certainly in conspicuous contrast to the 113 cases which showed marked improvement after a single injection. One may well surmise, after studying this report in its details, that, when treatment can be instituted under even reasonably satisfactory conditions of observation and discriminating diagnosis, a highly effective outcome of the use of neo-arsphenamin would result.

As yaws is essentially a tropical disease, most readers of THE JOURNAL can scarcely be expected to realize the extent to which it may be distributed in certain regions. Hence it will come as a surprise to learn that the Harvard Commission observed more than a thou-

1. Castellani, A., and Chalmers, A. J.: Manual of Tropical Medicine, Ed. 3, London, 1919, p. 1560. Garrison, F. H.: History of Medicine, Ed. 3, Philadelphia, W. B. Saunders Company, 1922, p. 748.

2. Moss, W. L., and Bigelow, G. H.: Yaws: An Analysis of 1,046 Cases in the Dominican Republic (Illustrated), Bull. Johns Hopkins Hosp. **33**: 43 (Feb.) 1922.

sand cases within a short period in a few rather restricted localities among an estimated population of less than 800,000 persons in the Dominican Republic. Since yaws has been demonstrated not to be identical with syphilis, the problem of its origin and distribution has become more interesting. It does not take us far in these days to incriminate "dirt" and "insanitary conditions." Such indefinite possibilities of transmitting infection neither satisfy the critical student nor effectively assist the sanitarian. Moss and Bigelow, who have studied the distribution of the primary lesions in more than 800 patients, have concluded that sexual transmission as a common method may be excluded because of the fact that in only 1 per cent. of them were the genitalia involved. There was no evidence of hereditary transmission. The preponderance of the primary lesion on the lower extremities, as compared with the trunk, would seem to exclude transmission by the bites of either flying or nonflying insects which could equally well reach other parts of the body. The commission regards it as most probable that trauma, frequently minor in character, usually determines the site of the primary lesion in yaws. This is entirely compatible with the view that the disease may be transmitted by direct contact, or that insects, flies, etc., may be vectors of the virus.

THERAPEUTIC USE OF THE OXYGEN CHAMBER

The problem of oxygen therapy is not a new one. Ever since the days of Lavoisier, who declared that the life processes were those of oxidation, with the resulting elimination of heat, the importance of oxygen for physiologic function has been recognized. For a time it was assumed by many that the supply of this gas regulates metabolism, just as air fans the flame in ordinary combustion outside the body. Today it should scarcely be necessary to point out the untruth of such a conception, for we know that it is not the intake of oxygen that causes metabolism; rather, the extent and nature of the chemical changes in the body determine the amount of oxygen to be absorbed. Furthermore, oxidation is not confined, as was formerly conjectured, to the blood which carries the important gas to all parts of the organism. The tissues are the essential seats of those metabolic reactions in which oxygen assumes a rôle. Under ordinary circumstances there is an abundance of oxygen in the respiratory intake. It is present in quantities far larger than any capacity of the blood to carry it away, so that much of the popular talk, sometimes shared by physicians, about getting more oxygen into our lungs or our blood is based on an utter misconception of the chemistry and mechanics of respiration. Only when with falling barometer, as at high altitudes, the partial pressure of the oxygen in the air begins to decrease markedly, does the distress due to a lack of the gas begin to manifest itself. Gas tension plays a dominant part in the absorption and distribution of oxygen.

There are pathologic conditions, however, in which the opportunities for rapid exchange of gases through the lungs are not ideal. Sometimes they arise from an altered pulmonary circulation, sometimes from an impaired condition of the alveoli of the lungs. In such circumstances the supply of oxygen at higher tension in order to secure adequate absorption into the blood has seemed fully warranted. The occasional existence of hypo-oxemia, falsely designated as anoxemia, is now well established through studies on the actual composition of the blood made possible through the improved technic of blood gas analysis. The blood pigment, hemoglobin, may be less saturated with oxygen than normal. Treatment with oxygen thus attains a rational justification. The conventional devices by which a current of the gas has been admixed with the inspired air are usually ineffective in adding any considerable increment of oxygen; and the procedures are wasteful in the extreme. Efficacious and economical masks have been devised, but they are invariably a source of discomfort. Meltzer's insufflation method[1] is not easy of application. The bed tent devised by Leonard Hill of London represents a still different attempt to supply a patient with an atmosphere enriched with oxygen.

Obviously, an air chamber in which the character of the respired atmosphere may be perfectly controlled offers the ideal solution for the problem of oxygen therapy. The latest device of this sort, installed by Stadie[2] at the hospital of the Rockefeller Institute, New York, has already been tested in a few suitable cases of pneumonia.[3] It is a chamber easy of ingress and egress, economical in its cost of operation, and permitting comfort for the patient and attendants under conditions in which an atmosphere containing as much as 65 per cent. of oxygen can be maintained for long periods under exactly known conditions. In this oxygen chamber, the cyanosis of "anoxemic" patients for whom the use of oxygen by inhalation was clearly indicated disappeared in several cases of severe pneumonia, and relief was afforded.

It is too early to state whether the relief of obvious hypo-oxemia will regularly influence the outcome of lobar pneumonia, even though one must almost inevitably expect some benefit from such improvement of a physiologic function. Improved tissue respiration will not necessarily avert the dangers and damages of bacterial or other toxins. Although inhalation of pure oxygen for a long time is regarded as harmful,[4] Stadie's studies on man seem to demonstrate that prolonged

1. Meltzer, S. J.: The Therapeutic Value of Oral Rhythmic Insufflation of Oxygen, J. A. M. A. **69**: 1150 (Oct. 6) 1917.
2. Stadie, W. C.: Construction of an Oxygen Chamber for the Treatment of Pneumonia, J. Exper. Med. **35**: 323 (March) 1922.
3. Stadie, W. C.: The Treatment of Anoxemia in Pneumonia in an Oxygen Chamber, J. Exper. Med. **35**: 337 (March) 1922.
4. Smith, J. L.: J. Physiol. **24**: 19, 1899.

inhalation of oxygen varying from 40 to 60 per cent. is without harm. The prospect of its benefit for the treatment of the anoxemia of pneumonia is increased by the fact, insisted on by Stadie, that an important pathologic condition to be counteracted is the great impairment of the respiratory surface of the lung. This is especially true when the pneumonic process extends throughout the lung so that there are many patches of bronchopneumonia, with accompanying bronchitis and edema, as evidenced by the presence of râles throughout the lung. Here every molecule of oxygen must be made to count, and the chamber is likely to assure a larger supply in the emergency. In any event, it is helpful to know that a workable and tested device has actually been installed for study.

Current Comment

SPECIAL RATES TO THE ST. LOUIS SESSION

Special rate round-trip tickets to the St. Louis session of the Association have been authorized by the various passenger associations. These rates are available to all members and Fellows of the American Medical Association who present the usual identification certificate, which may be secured by writing to the Association Headquarters and accompanying the request with a self-addressed, stamped envelop. This concession to those attending the convention should stimulate a full attendance. It is advisable for those who contemplate the trip to write promptly for the necessary certificate.

BULLETINS OF NEW YORK'S MEDICAL CLINICS

For a number of years in New York, Chicago and Philadelphia, daily or weekly bulletins have been issued listing the clinics at the various hospitals in those cities; thus the clinics are made available to visitors as well as to local physicians who may care to attend them. In New York these bulletins were issued from the New York Academy of Medicine by the "Society for the Advancement of Clinical Study in New York." This organization was originally made up largely of surgeons, and the bulletins listed only the operative clinics. Recently, however, a committee of internists connected with this society began issuing also weekly bulletins giving in detail for the coming week the subjects to be presented in the various medical clinics. The result, we are informed, has been a remarkable stimulation of the men on the hospital staffs. Each afternoon from one to three clinics are given at each of the institutions, and they are well attended. It has been interesting to note that it is not alone the well-known men who attract, but also the subject being presented. The practitioner wants help on particular problems, and the programs show him where to go. These bulletins are bringing excellent results in furthering graduate education for the physicians of that community. The benefits will be further extended if a similar cooperation or centralized control can be secured of the graduate medical schools and individual graduate courses available in a great city. The methods followed are worthy of being considered in other cities that also have facilities for postgraduate instruction which are abundant but which are not available to the rank and file of the medical profession.

THE PYLORIC SPHINCTER AND DUODENAL MOTILITY

In 1899 the English physiologists Bayliss and Starling described a phenomenon common to the alimentary tract from the lower part of the esophagus to the rectum in a more or less well marked manner and to which they gave the name of "the law of the intestine." It concerns the movements brought about by the presence of food or similar contents at any particular part of the bowel. When the bolus acts as a stimulus to the latter, a cessation of the rhythmic contractions just below the locality of excitation ensues, together with a diminution of the state of moderate tonic contraction in which the intestinal muscle normally exists and on which the rhythmic contractions are superimposed. Coincidently with this relaxation in front of the point excited there is an increased tonic contraction, with greater vigor of rhythmic movement behind the place stimulated. The outcome of such a performance is the progressive forward movement of the intestinal contents. There has been some debate as to whether the pyloric sphincter functions in harmony with the plan just outlined or whether it has a regulatory mechanism of entirely independent character. Cannon, for example, has argued that the degree of gastric acidity determines the reflex opening of the pylorus. Evidence seems to be accumulating, however, to show that such chemical control cannot be the foremost, if, indeed, it is a significant factor in human pyloric function. The most recent observations of Wheelon and Thomas [1] at the St. Louis University School of Medicine are in harmony with the view that the acts of opening and closing of the pyloric sphincter are to a great extent dependent on the motility of the structures lying on either side. This means, in the further words of these investigators, that the sphincter acts as a functional link in the chain of forward conduction of material from the stomach. The demonstration that the pyloric sphincter exhibits cycles of rhythmic motility of the same duration as those of the antrum, but so timed as to supplement them functionally, is of importance to a proper understanding of the motor phenomena of the pylorus. Quoting the explicit description of the St. Louis physiologists, the antrum, pyloric sphincter and first part of the duodenum in the dog each possesses definite rhythmic cycles which bear a constant relationship and show a dependence on one another; that is, parts excited craniad travel caudad to excite lower segments. The three portions, therefore, show progressive motility which occurs in a definite sequence and in a manner which we may believe normally causes material to leave the stomach and to be delivered into

1. Wheelon, H., and Thomas, J. E.: Observations on the Motility of the Duodenum and the Relation of Duodenal Activity to That of the Pars Pylorica, Am. J. Physiol. **59**: 72 (Feb.) 1922.

portions of the intestine below the first portion of the duodenum. If this interpretation becomes substantiated for the human pylorus, as recent studies of McClure and others at Boston seem to promise, considerable progress in gastric and duodenal physiology will have been made.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARIZONA

Personal—Dr. William C. Ellis, Phoenix, has been appointed to the city commission, effective, May 1.——Dr. George A. Bridge, Bisbee, chief surgeon of the Copper Queen Hospital, recently fell from his bicycle and sustained a fractured femur.

Hospital News.—The old Arizona Hospital, which has been recently reorganized as the Tucson-Arizona Sanatorium, has been renovated and equipped for complete modern medical and surgical service. The former Arizona Hospital has been made into a physicians' building, occupied exclusively by physicians and dentists.——Dr. Winston C. Hackett, Phoenix, has purchased the old Kibbey property and has had it remodeled into a hospital for colored people. The building has been refurnished and equipped with modern improvements.

ARKANSAS

Hospital News.—Contracts have been let for a $200,000 sanatorium and bath house building to be erected at Hot Springs for the Pythian Lodge.

New County Society.—The Cross County Medical Society was organized, April 1, at Wynne, with Dr. Wiley B. Barner, president; Dr. James D. McKie, vice president, and Dr. Thomas Wilson, secretary-treasurer.

TO SECURE IDENTIFICATION CERTIFICATE FOR SPECIAL FARE RAILROAD TICKETS TO ST. LOUIS WRITE TO THE SECRETARY, 535 N. DEARBORN ST., CHICAGO, INCLOSING SELF-ADDRESSED STAMPED ENVELOPE.

CALIFORNIA

Unlicensed Practitioners Convicted.—It is reported that Mrs. M. A. McClelland, chiropractor of Turlock, was recently fined $250 for practicing medicine without a license.——R. E. Ross, a chiropractor of Dinuba, was given an alternative sentence of paying a fine of $300 or serving 150 days in jail, following his conviction on a charge of practicing medicine without a license. He chose the jail sentence.

Personal.—Dr. James C. Crawford, Orange, has been elected president of the Orange County Medical Association, and Dr. Rowland P. Yeagle, Santa Ana, secretary.——Capt. Francis W. Wieber, M. C., U. S. Navy, has been appointed to take charge of the new naval hospital at San Diego, which was recently erected at a cost of $2,000,000.——Dr. William E. Musgrave, editor of the *California State Journal of Medicine*, has resigned as director of the Hospital for Children and Training School for Nurses, San Francisco, which position he has held for five years.

Hospital News.—The removal of the old Isolation Hospital, Potrero, was ordered, and it was destroyed by fire recently. The leper colony formerly housed there has been transferred to the United State government culion at Carrville, La.——The new orthopedic hospital school has been opened at Los Angeles. The school is only for children and lessons will be continued while the little patients are undergoing their treatments. All the wards are differently arranged from a psychologic standpoint. The walls are gray and the ceilings sky blue. The board of education has assigned teachers to instruct the children while in the hospital, which was made possible by the Los Angeles Orthopedic Foundation, an organization composed of business men who have devoted their time and money to the care of crippled children.

CONNECTICUT

Clinic to Be Maintained.—At a special meeting of the board of apportionment, provision was made for the continuation and maintenance of the genito-urinary clinic at the Bridgeport City Dispensary, which it had formerly been considered advisable to discontinue. The state will continue to grant the medical supplies for the clinic and local physicians will donate their services.

Society News.—Owing to circulars received by the physicians of New Haven from a local druggist, asking for custom by announcing that preferred stock is for sale and guaranteeing an 8 per cent. dividend, and other financial inducements, a meeting of the New Haven Medical Association was held April 5, and it was voted to be "the sense of the New Haven Medical Association that a financial interest of a practicing physician in any drug store tends to commercialize medical science by directly and indirectly playing on human cupidity and inclining the morally weak to send patients to an establishment in which they have a monetary interest, thus making profit out of their own prescriptions in addition to receiving their regular fees for professional services." "The association desires to make public protest against all such attempts to exploit the profession at the expense of their honor and feel that any physician participating, by dividends or otherwise, in the profits of such a business venture is unworthy of membership in the association."——At the one hundred and thirtieth annual meeting of the Hartford County Medical Association, held at Hartford, April 4, under the presidency of Dr. Thomas G. Alcorn, the following officers were elected for the ensuing year: president, Dr. Edward R. Lampson, Hartford; vice president, Dr. Arthur S. Brackett, Bristol, and secretary-treasurer, Dr. Anthony W. Branon, Hartford. Dr. Philip D. Bunce read the obituary of the late Dr. Charles E. Taft.

FLORIDA

Health Clinic.—An itinerant chest clinic was held in Fort Pierce, March 25, under the auspices of the Florida Public Health Association and the city board of health. Dr. Louise M. Limbaugh, Jacksonville, and Dr. Theodore A. Blinn, were the examiners.

GEORGIA

Personal.—Dr. Young A. Little has been appointed associate professor in mental and nervous diseases at the Atlanta School of Medicine.

Hospital News.—Work has been started on the additions to the government psychopathic hospital, Lenwood, to be erected at a cost of $250,000.

Medical Meeting.—At the semiannual meeting of the Seventh District Medical Society, at Lafayette, April 5, Dr. John Turner McCall, Rome, was elected president and Dr. Mather M. McCord, Rome, was reelected secretary.

ILLINOIS

Hospital News.—A new $250,000 addition will be built at St. John's Hospital, Springfield.

Typhoid Fever Carriers.—Dr. Ralph W. Nauss, assistant epidemiologist of the state department of public health, recently completed the task of checking up on all typhoid fever carriers whose identity is known to the department, in northern Illinois. Particular attention was paid to such carriers as were likely to be engaged in or associated with the production and sale of milk and other dairy food products.

Typhoid Vaccination Warning Issued.—In order to forestall the probability of typhoid fever epidemics in the many river communities that have suffered severely from serious flood conditions, Dr. Isaac D. Rawlings, state director of public health, has written to local health officers advising them to make every effort at obtaining general antityphoid vaccination among all persons in their districts who will be exposed to danger through the use of polluted water when the floods subside.

Personal.—Major Henry Ladd Stickney, in charge of the surgical service of the government hospital at Fox Hills, N. Y., has been transferred to Dwight.——Dr. Isaac D. Rawlings, state director of health, discussed state clinics in their relation to the practicing physician and the public before a meeting of the Decatur and Macon County Medical Society, April 14.——Dr. Gibson P. Livingston, Upper Alton, was robbed of $1,000 in cash and $3,000 worth of jewelry when a burglar entered his home on the night of March 22.

Branch Diagnostic Laboratory.—The state department of public health has completed arrangements for establishing a new branch diagnostic laboratory at East St. Louis. The diagnostic work, which will include only the examination of diphtheria cultures, will be carried out in the city public health laboratory under the direction of the local health commission. This branch will also be utilized as a distributing station by the state department of public health; such things as specimen mailing containers, swabs, antitoxin and triple typhoid vaccine being available to physicians in southern Illinois from that point. This brings the total number of branch laboratories in the state up to seven.

Chicago

Personal.—Dr. Herman N. Bundesen, health commissioner of Chicago, was presented with a diamond studded gold star at a surprise party, given April 13.

Northwestern University.—A banquet will be given, May 17, for the alumni of Northwestern University Medical School, Chicago, at the Hamilton Club. Alumni attending the meeting of the Illinois State Medical Society, May 16-18, in Chicago, are requested to send in their reservations to Dr. James G. Carr, 2421 South Dearborn Street, Chicago.

Contribution for Research Work.—The National Canners' Association has recently donated $10,000 a year for two years to the University of Chicago for investigation into the causes of disease connected with canning. The work will be under the direction of Prof. Edwin O. Jordan, chairman of the department of hygiene and bacteriology, with the assistance of Dr. Jacob C. Geiger, who has been appointed assistant professor of epidemiology for two years in that department. This work will be in cooperation with the U. S. Public Health Service.

KANSAS

Contagious Bacillary Conjunctivitis.—According to the report of the public health supervisor an epidemic of pink eye is prevalent in the Topeka schools, more than 120 pupils being reported as suffering from the disease during March.

Hospital News.—Work has been started on the nurses' home of the Methodist Hospital, Goodland. The building will contain thirty-five rooms.——The Newman Memorial County Hospital, Emporia, erected and equipped at a cost of about $300,000, was recently opened for the reception of patients.

KENTUCKY

Personal.—Dr. William N. Lipscomb has resigned as health director of Scott County.

Hospital News.—The Kentucky Children's Home Society has moved from its old home in Louisville to Lyndon. Barracks are being used at present for a detention and hospital ward pending the building of a hospital, which, it is expected, will be built in the autumn.——A new Sanatorium is being erected at Dawson and will be officered entirely by the medical staff.——Dr. Lee Botts will reopen his hospital at Glasgow this week.

LOUISIANA

Personal.—Dr. William R. Lastrapes has been elected president of the medical examining board for the Bureau of Pensions at Opelousas.——Dr. Henry J. Dauterive has been elected chairman of the New Iberia Parish Board of Health and Dr. Walter F. Carstens, parish health officer.

State Medical Meeting.—The annual meeting of the Louisiana State Medical Society was held at Alexandria, April 11-13, under the presidency of Dr. Joseph E. Knighton, Shreveport. The following officers were elected for the ensuing year: president, Dr. Paul J. Gelpi, New Orleans; vice presidents, Drs. G. M. G. Stafford, Alexandria, Charles V. Unsworth, New Orleans, and Courtland P. Gray, Monroe, and secretary-treasurer, Dr. Paul T. Talbot, New Orleans.

MASSACHUSETTS

Course in Rehabilitation.—The Harvard Graduate School of Education, Harvard University, Boston, will give a summer course in the rehabilitation and reeducation of handicapped persons, July 10 to August 19.

New Food Regulations.—The state department of public health has made public new food and drug regulations, adopted by the state public health council at its March meeting. The regulations are made under provisions of law which require the department to adopt rules, regulations and standards of the U. S. Department of Agriculture, for the purpose of securing uniformity between the state and the federal authorities. The regulations provide that "each guaranty to afford protection shall be signed by and shall contain the name and address of the person making the sale of the articles covered by it, and shall be to the effect that such articles are not adulterated or misbranded."

MICHIGAN

Hospital News.—The new Municipal Tuberculosis Sanitarium constructed by the health department, near Northville, at a cost of approximately $3,000,000 has been completed. There are accommodations for 300 adults and 100 children in the hospital proper, and for 100 additional children in the Summer Preventorium.——Plans have been completed for a $100,000 community hospital at Hastings.——It is planned to build an isolation hospital at Walkerville, also a general hospital to serve all the Canadian border municipalities, under the direction of the Essex Border Utilities Commission.

MISSISSIPPI

Personal.—Dr. Henry Boswell, secretary of the state medical association, was the principal speaker at a meeting of the Leflore County Medical Association, held at Greenwood, April 7.

Hospital News.—A new hospital will be erected at Clarksdale at a cost of $50,000, under the auspices of the Clarksdale Civic Hospital committee.——The new community hospital at Brookhaven was formally opened April 9.

TO PURCHASE SPECIAL RATE ROUND TRIP RAILROAD TICKETS TO ST. LOUIS MEMBERS MUST PRESENT "IDENTIFICATION CERTIFICATES."

MONTANA

Campaign Against Anthrax.—The state board of health issued an order, April 6, prohibiting the importation into the state of all shaving brushes made from horse hair, in an effort to combat the increase of anthrax.

Personal.—Dr. Charles E. Blankenhorn, Malta, has been appointed veterans' surgeon for Phillips County, to succeed Dr. Lester W. Day.——Dr. John C. Dunn, Lewiston, has been elected president of the Fergus County Medical Society to succeed the late Dr. H. W. Wardle of Moore.——Dr. David A. Baker, St. Ignatius, has contracted tuberculosis and has been transferred to U. S. Public Health Service Hospital No. 72, at Fort Harrison, Helena.——Dr. Byron L. Pampel, Livingston, was elected president of the board of health, April 6; Dr. Daniel J. Donohue, Butte, was elected vice president, and Dr. William F. Cogswell, Helena, secretary of the board.

NEW JERSEY

Hospital News.—Plans are being executed for the new three-story addition which will be erected for the Summit Home for Children, Summit.

Personal.—Dr. Henry B. Costill, Trenton, president of the Medical Society of New Jersey, has appointed Dr. Julia C. Mutchler, Dover, as a member of the Welfare Committee of the state association.——Dr. John N. Bassin, Newark, has been appointed rehabilitation surgeon to the Newark Beth Israel Hospital.——Dr. Frederick J. LaRiew, Washington, has been reelected president of the local health board.——Dr. Charles V. Craster, Newark, will act as superintendent of the City Hospital, and continue as health officer of Newark at the same salary that he is now receiving as health officer.——Dr. Frederick P. Wilbur, Franklin, has resigned as chief surgeon of the Franklin Hospital.

NEW MEXICO

Annual State Meeting.—The fortieth annual meeting of the New Mexico Medical Society, will be held at Gallup, April 28-29, under the presidency of Dr. Chester Russell, Artesia.

NEW YORK

Disabled Veterans Get State Aid.—A bill appropriating $1,000,000 for disabled veterans has been signed by Governor Miller. Application blanks can be obtained from deputies in each assembly district. There will be an examining physician in each district, who will receive $3 for each examination.

Maternity Protection.—Under the Davenport bill recently signed by Governor Miller, $130,000 is appropriated by the

state to safeguard maternity and young children. Under this law, a new division of maternity, child hygiene and infancy is created in the state department of health. It also carries out a recommendation by the governor that the state take up this work without the aid or interference of the federal government, the governor being opposed to the state's accepting help under the Sheppard-Towner maternity bill.

New York City

Physician Convicted.—It is reported that Dr. Simeon B. Minden was found guilty, April 12, in the Bronx County Court of having performed an illegal operation.

Memorial to Dr. Sims.—A bronze memorial tablet has been erected in the operating theater of the Woman's Hospital, dedicated to Dr. J. Marion Sims. The inscription reads: "Sims Operating Theater, dedicated to the memory of James Marion Sims, M.D., LL.D., 1813-1883, the Founder of the Woman's Hospital and of Modern Gynecology." The tablet and the remodeling of the operating theater were made possible by a donation from Mrs. Frederick Ferris Thompson.

Dedication of Veteran's Hospital.—The formal opening of the U. S. Veteran's Hospital No. 81, in the Bronx, took place, April 15, under the presidency of Assistant Surg.-Gen. Claude H. Lavinder, with a reception committee headed by Surgeon-General Cumming. Col. E. Clifford, assistant secretary of the Treasury, Col. Charles R. Forbes, director of the U. S. Veterans' Bureau, and Col. Cornelius Wickersham of the American Legion Hospitalization Committee, gave addresses and the U. S. Navy Band from the Brooklyn Navy Yard provided the musical program.

Experimental Health Center.—Under the direction of the health department, a community health improvement is being tried by the residents of the district bounded by West One Hundred and Twenty-Eighth Street and One Hundred and Thirty-Fourth Street. The residents of that district have established a self-supporting and self-directing health protective and nursing service in an endeavor to prevent sickness by the giving of instruction in hygiene and nursing to housewives by trained nurses. An endeavor will be made to have every citizen in that territory contribute 50 cents a month.

For "Identification Certificates" send self-addressed stamped envelope with request to the Secretary, 535 N. Dearborn St., Chicago.

NORTH CAROLINA

Tuberculosis Clinics.—Dr. Joseph L. Sprull, state clinician, held a series of clinics in the various localities around Lexington, April 4-15.

Hospital News.—Plans have been completed for the $35,000 nurses' home for Mercy Hospital, Monroe.——A new 100-bed hospital will be erected at Asheville at a cost of $250,000, to be known as the Biltmore Hospital.

OHIO

New Health League.—At a meeting of representatives of the county, March 28, at Tiffin, the Seneca County Public Health League was organized. Robert G. Patterson, Columbus, executive secretary of the Ohio Public Health Association, addressed the meeting and outlined the aims and purposes of the new county league.

University of Cincinnati News.—Dr. Kenneth D. Blackfan, professor of pediatrics, University of Cincinnati School of Medicine, has been appointed dean of the Children's Hospital, Mount Auburn.——Dr. Reuben J. Erickson has been made associate professor of medicine in the School of Nursing and Health of the college.——Dr. Alfred Friedlander has been appointed attending physician and chief of the consulting staff of the tuberculosis service at the tuberculosis sanatorium.——Dr. Samuel Zielonka has resigned as instructor of surgery.

Personal.—Dr. Marjorie Burnham, Kinsman, who has been in Serbia for the last four years, has returned to her practice in that city.——Dr. William T. Fitzgerald, Greenville, spoke on the "Medical Profession" at the first of a series of lectures to assist local high school students in selecting a profession.——Dr. William Claude Davis, West Mansfield, has been appointed past assistant surgeon, U. S. Public Health Service, and has been stationed in North Carolina.——Dr. Frederick M. Houghtaling, Huron, has been appointed full-time health director of Erie County and Sandusky.——Dr. James G. Blower, Akron, has been appointed a member of the state medical board to succeed Dr. Ben H. McClellan of Xenia.——Dr. Edmund A. Weeks has been appointed health commissioner of Akron to succeed Dr. W. S. Chase, who recently resigned.

Hospital News.—The new sixty-nine-bed wing for nurses, including a large gymnasium, has been completed at the City Hospital, Cleveland, and the new contagious building with a 105-bed capacity, also the new main hospital and the psychopatic building were completed during the year 1921. The old main building has been entirely renovated and further repairs will be made in the near future. The construction work on the $4,000,000 city hospital has been temporarily discontinued, owing to a strike.——Repairs to the City Hospital, Marion, will be effected at an estimated cost of $3,130.——Stark County has established a temporary fifteen-bed hospital for the treatment of tuberculosis, pending the erection of a larger and permanent hospital, for which a number of sites have been inspected.——The McClellan Hospital, Xenia, has recently been moved to new brick buildings. The second floor of the old institution was destroyed by fire, February 16.

OKLAHOMA

Hospital News.—The contract has been let for the construction of the Tulsa City Hospital at a cost of $44,180.——The Eastern Oklahoma Hospital for the Insane, Vinita, has recently opened its $100,000 addition for the reception of patients. Dr. Felix Adams is the physician in charge of the institution.

Physicians Lose Suits.—It is reported that Drs. Alonzo P. Gearheart and William Leslie, Blackwell, recently were convicted for alleged malpractice and the plaintiff was awarded $10,000.——It has been announced that Dr. Alvin Ray Wiley, Tulsa, lost a suit alleging malpractice when the jury returned a verdict for $2,000 in favor of the plaintiff.

PENNSYLVANIA

Hospital News.—A new four-story addition will be erected for the Samaritan Hospital, Philadelphia.——A new addition to the Chambersburg Hospital has just been completed at a cost of $90,000.

Memorial to Mastbaum.—A new infirmary was dedicated as a memorial to the late Stanley V. Mastbaum, founder of the Stanley Company of America, at exercises in the Eaglesville Sanatorium, Eaglesville, March 29. The building was erected at a cost of $83,000.

Society Elections.—At a meeting of the Fayette County Medical Society, Dr. George H. Robinson, Uniontown, was elected president for 1922, and Dr. Robert Heath, Fairchance, secretary-treasurer.——The Elk County Medical Society elected Dr. John C. McAllister, Ridgeway, president, and Dr. Samuel G. Logan, Ridgeway, secretary-reporter.

Personals.—Dr. William S. Rush, Carlisle, has been appointed physician to the Cumberland County Home and Hospital for the Insane, to succeed the late Dr. J. G. David.——Dr. Erwin F. Huff has been elected a member of the board of health of Sellersville for a three-year term.——Dr. J. T. Strimple has been appointed physician to Erie County Prison.

Medical Sciences Building.—Plans have been completed for the erection of the Medical Sciences Building in East Liberty, Pittsburgh, for the exclusive use of physicians and dentists. This building will be owned by the physicians themselves under the Joint Ownership Construction Company, Inc., and will be seven stories in height. There will be a lunch room for the physicians, an ethical pharmacy, an optical shop and a surgical instrument store. A twenty-four hour telephone service will be maintained by four operators.

Clinics for Industrial Workers.—At a meeting of the Industrial Relations Committee of the Philadelphia Chamber of Commerce, with representatives from industrial, medical and surgical organizations, held recently, it was planned to establish modern medical clinics to handle 10,000 workers in Philadelphia, whereby all employees of the industries in the city may have the same attention in cases of injury or illness which is possible in the establishments in which they maintain first class clinics. It is estimated that with these clinics the expenditure of large sums, now spent on compensation, will be eliminated, and many lives will be saved and much invalidism avoided.

Philadelphia

Heart Disease as a Public Health Problem.—The annual meeting of the Philadelphia Association for the Prevention and Relief of Heart Disease was held April 19. Dr. Haven Emerson, New York, gave the principal address.

Frederick Packard Lecture.—Dr. Fritz B. Talbot, Boston, delivered the annual Frederick Packard lecture before the Philadelphia Pediatric Society, April 11, on the subject of "Normal and Abnormal Metabolism of Infancy and Childhood."

SOUTH CAROLINA

Rat Campaign.—Through the cooperation of the Women's Bureau of the Chamber of Commerce and the health department of Greenville, a drive to rid the city of rodents was launched, March 20 to April 3. It was estimated that rats in the United States in 1921 caused a property loss of $1,000,000.

New Medical Society.—At a meeting of the physicians and dentists of the city, March 17, the Batesburg Medical Society, an auxiliary to the Lexington County Medical Society, was organized, with Dr. Washington P. Timmerman, former president of the South Carolina Medical Association, as president, and Dr. Albert Lee Ballenger, secretary. A committee was appointed to prepare and draft the rules and regulations of the society.

TENNESSEE

Hospital News.—The Baptist Memorial Hospital, Memphis, was recently granted $60,000 by the executive committee of Tennessee Baptists.

Personal.—Dr. William W. Dickey has resigned as director of the Venereal Clinics at Chattanooga. Dr. R. M. Colmore will succeed Dr. Dickey.

TEXAS

Personal.—Dr. Willis J. Pollard has been appointed city health officer of Kaufman, to succeed the late Dr. Burrel J. Hubbard.——Dr. Robert B. Alexander has been appointed assistant instructor in the department of medicine at the University of Texas Medical College, Galveston.

Dallas Monthly Clinics.—These clinics will hold a "statewide" session, May 20, to which all Texas physicians, en route to the annual session of the American Medical Association at St. Louis, are invited. A special train will leave Dallas for St. Louis, the evening of May 20. Particulars may be obtained from Dr. Curtice Rosser, chairman of the clinics, 514 Wilson Building, Dallas.

VIRGINIA

Personal.—Dr. Edwin M. Mann, Kenbridge, has been elected president of the Luneburg County Medical Society.——Dr. Garnett Nelson was recently reelected president of the Richmond Tuberculosis Association.

Hospital News.—The contract has been awarded for a new hospital at Lynchburg, to be erected by the Board of the Virginia Baptist Hospital.——The contract has been let for a $25,000 addition to the Protestant Hospital, Norfolk.

WISCONSIN

Corrective Speech.—Courses in the correction of speech disorders for physicians specializing in this work, as well as for teachers and speech aids, will be given at the University of Wisconsin, Milwaukee, summer session, June 26 to August 4.

Medical Building.—The Milwaukee Academy of Medicine has appointed a committee, of which Dr. Horace M. Brown is chairman, to investigate ways and means for the erection of a building devoted exclusively to members of the medical and dental profession.

WYOMING

Health News.—The state board of health has been designated by the governor to create a separate bureau of maternal and infant hygiene to cooperate with the National Child Labor Bureau, taking advantage of the Sheppard-Towner bill.——Dr. James S. Hunter, Gillette, has been appointed health officer of Campbell County, to succeed the late Dr. Edward J. Sexton.

GENERAL

National Academy of Sciences.—The annual meeting of the academy will be held at Washington, D. C., April 23-26. At the invitation of the academy and the Carnegie Institution of Washington, Dr. Hendrick Anton Lorentz of the Rijks Universiteit, Leiden, will deliver an address, April 24.

Medical Officers' Reunion.—The Association of Medical Officers of Camp Green Base Hospital will hold its first reunion in Washington, May, 1922, under the presidency of Dr. Francis Winslow Palfrey, Boston. For information apply to Dr. Claude P. Brown, secretary, 120 South Twenty-Second Street, Philadelphia.

American Congress on Internal Medicine.—At the sixth annual meeting of the congress, held at Rochester, Minn., the following officers were elected for the ensuing year: president, Dr. Sydney R. Miller, Johns Hopkins University Medical School, Baltimore; vice presidents, Drs. Henry S. Plummer, Rochester, Minn., and Stuart R. Roberts, Atlanta, Ga.; treasurer, Dr. Clement R. Jones, University of Pittsburgh, and secretary general, Dr. Frank Smithies, Chicago.

National Eyesight Tests.—Under the auspices of the Federated American Engineering societies, a campaign to determine the extent of defective eyesight among children and industrial workers will be conducted throughout the United States, with the assistance of local health and educational officers, with the object of sight conservation. The Council on Eyesight Conservation reported that only one third of the 24,000,000,000 American school children receive adequate tests of vision.

Society for Speech Disorders.—The National Society for the Study and Correction of Speech Disorder will hold its annual meeting as an allied association with the National Education Association in Boston, July 3-7. Each afternoon will be taken up with formal papers by officers and Massachusetts teachers of speech, and there will be ten five-minute papers open to general discussion. There will be a demonstration with maps and charts showing the progress of the American Movement for Speech Correction from coast to coast.

TO SECURE IDENTIFICATION CERTIFICATE FOR SPECIAL FARE RAILROAD TICKETS TO ST. LOUIS WRITE TO THE SECRETARY, 535 N. DEARBORN ST., CHICAGO, INCLOSING SELF-ADDRESSED STAMPED ENVELOPE.

National Tuberculosis Association.—The eighteenth annual meeting of the association will be held at Washington, D. C., May 4-6, under the presidency of Dr. James Alexander Miller, New York. Secretary of State Hughes will address the opening meeting. Speeches also will be made by the French ambassador, the Chinese Minister and the Czechoslovakian envoy. Dr. Charles R. Austrian, Baltimore, is chairman of the clinical section; Dr. Charles Krumwiede, New York, of the pathologic section, and Dr. William F. Snow of the advisory council.

Warning Against Typhus.—Col. Edward Gibbs, who recently volunteered to go to Poland to study typhus conditions, returned on the *America*, April 8. He states that strict precautions are necessary to prevent the scourge from spreading in this country and reports that Dr. W. Chozko, minister of health for Poland, informed him that there were only 3,000 physicians to cover the entire 30,000,000 population of Poland and that typhus is epidemic, especially in Rovno, the port of entry to Poland from Russia. The typhus death rate in that city is 25 per cent.

Influenza During 1922.—State health officers in twenty-eight states, the estimated population of which was 67,200,000, reported 139,850 cases of influenza between January 22 and March 25, 1922, an average of one case to 490 persons. The greatest number of cases in one week was reported March 4, when the total was 22,352. The greatest number of cases reported from any state in one week was 10,033, from California the week of February 25. Deaths from influenza and pneumonia reported during the same period, but from sixty-three large cities, whose estimated population was 27,500,000, numbered 15,880, or one to 1,731 persons. New York City reported the greatest number of deaths from these diseases, the week of February 11, when the total was 596.

Fellowships in Medicine.—The establishment of national fellowships by the National Research Council, announced in a previous issue of THE JOURNAL, has been followed by the appointment of a special board to administer the fellowships, consisting of Dr. Victor C. Vaughan, chairman, Washington,

D. C.; Dr. David L. Edsall, professor of medicine and dean of the Medical School of Harvard University, Boston; Dr. Joseph Erlanger, professor of physiology, School of Medicine, Washington University, St. Louis; Dr. Gotthelf Carl Huber, professor of anatomy, University of Michigan; Prof. E. O. Jordan, University of Chicago; Dr. Dean Lewis, professor of surgery, Rush Medical College, Chicago; Dr. William G. MacCallum, professor of pathology and bacteriology, Johns Hopkins University, Baltimore; Dr. Walter Warner Palmer, professor of medicine, Columbia University, New York, and Lafayette Mendel, Ph.D., Yale University, New Haven, Conn.

Culture Collection of the Society of American Bacteriologists.—The Society of American Bacteriologists has taken over the collection of cultures which for the past ten years has been maintained at the American Museum of Natural History by Prof. C.-E. A. Winslow, and has deposited it at the Army Medical Museum, where facilities have been arranged for its housing and maintenance. The following committee will be in charge: Major G. R. Callender, curator of the Army Medical Museum; Dr. George W. McCoy, director of hygienic laboratory, U. S. Public Health Service; Major H. J. Nichols, Army Medical School; the president of the society; the secretary of the society, and Dr. J. M. Sherman, dairy division, Bureau of Animal Industry, chairman. These and other members of the society in and near Washington will do volunteer work and the research fellow will do part time work in maintaining the collection. No charge will be made for cultures. Address Department of Bacteriology, Army Medical Museum, Seventh and B streets, S. W., Washington, D. C.

To purchase special rate round trip railroad tickets to St. Louis members must present "Identification Certificates."

A Research Fellowship in Bacteriology.—At its recent meeting in Philadelphia, the Society of American Bacteriologists appropriated a fund for the support of a research fellowship in pure bacteriology. The line of work to be carried on under this fund must concern a purely scientific and fundamental phase of bacteriology, although a certain latitude of choice will be permitted, conditioned by the previous training and the desires of the one holding the fellowship. Applicants for the fellowship must have the degree of B.S., or its equivalent. The successful candidate, through arrangements now being made, will receive academic credit for the work done from a university of recognized standing. One hundred dollars a month will be available for the living expenses of the fellow. Approximately half his time will be devoted to details connected with the society's collection of bacteria, deposited at the Army Medical Museum. The selection of the research fellow will be in charge of a committee appointed by this society. This committee will have general supervision of the work, approve the problem selected and pass on the thesis which the fellow will submit as the report of his research. Applications for and communications concerning the research fellowship should be addressed to the chairman of the committee, Dr. Victor C. Vaughan, National Research Council, Washington, D. C.

The Passing of the Medical Record.—It has been announced that, with the current issue, William Wood & Co. will cease the publication of the New York *Medical Record*, and that it will be taken over by the A. R. Elliott Advertising Agency, which also publishes the *New York Medical Journal* and the *American Druggist*. The *Medical Record* was first issued in March, 1866. Previous to that time attempts had been made in New York to publish a weekly medical journal but without success. The idea of the *Medical Record* originated with Mr. William H. S. Wood, then a young man just out of college, who believed that a medical journal properly edited and well managed from the business end would succeed, in spite of the fact that the *Medical Times*, which had been established and published under splendid auspices, and edited by Dr. Stephen Smith, had succumbed to adverse circumstances. As first published, the *Medical Record* consisted of twenty-six pages and was a semimonthly. Its semimonthly issue was continued with a gradual increase in the number of pages until 1875, when it was changed to a weekly. Dr. George F. Schrady was editor of the *Medical Record* from its inception until his death in November, 1907, and since then it has been under the editorial management of Dr. Thomas L. Stedman.

Bequests and Donations.—The following bequests and donations have recently been announced:

Danville General Hospital, Danville, Va., $250,000; about $2,000,000 from a $3,000,000 estate, for the founding of an orphanage near Danville, by the will of John E. Hughes.

For the establishment of an orthopedic hospital at Newark, N. J., $100,000 by George A. Ohl, Jr.

Good Samaritan Hospital and St. Joseph's Hospital, Lexington, Ky., $100,000 each, by the will of Mr. E. J. Curley.

For hospital work in Muncie, Ind., $100,000; Riley Memorial Hospital, Indianapolis, $25,000, donated by Ball Brothers, manufacturers, of Muncie.

Rutherford Hospital, Rutherfordton, N. C., $100,000, for the purpose of equipping it for radium treatment, as a memorial to his late wife, by J. C. Plonk of Hickory, N. C.

Woman's Hospital, New York City, $15,000, by the will of Mrs. Rosina E. Hoyt.

Duke's Memorial Hospital, Peru, Ind., $12,000 for a nurses' home, by Mrs. Cordelia Putterbaugh.

University of Chicago, $10,000 a year, for two years, for investigation into causes of diseases connected with canning, by the National Canners' Association.

Children's Homeopathic Hospital, Philadelphia, will receive $5,000 by the will of Anna M. Williams.

Presbyterian Hospital, Denver, $3,000, by the will of Philip Argall.

Aiken Hospital, Aiken, S. C., $2,043, from a bridge tournament and subscriptions.

Worcester (Mass.) Society for District Nurses, $1,000; Worcester Hahnemann Hospital, $1,000; Memorial Hospital and temporary home and day nursery of Worcester, $500 each, by the will of Miss Emma Pratt.

Lebanon and Beth Israel Hospitals, New York City, each $1,000, and St. John's Riverside Hospital, Yonkers, $600, by the will of Morris Freudenheimer.

Margaret Pillsbury Hospital, Concord, N. H., $1,000, by George A. Pillsbury.

Perkins Institution for the Blind, Boston, $300; New England Home for Little Wanderers, $100, by the will of Oliver M. Wentworth.

LATIN AMERICA

Belgian Physicians Studying Tropical Medicine in Brazil.—The *Archivos Paranaenses de Medicina* relates that Dr. Lejune and Dr. Duren of Belgium, who have been in Brazil on an official research mission, recently spent some time at Paraná. They have been making a careful study of the system of prophylaxia rural in Brazil, before resuming their duties in the Congo.

Pan-American Congress of University Students.—The organ of the Asociación de Estudiantes Universitarios, *Studium*, published at Guatemala, Central America, recently issued a large souvenir number of 129 pages to commemorate the representative gathering there last fall of students from various countries of North and Central America. This gala number is profusely illustrated, being at the same time a tribute in honor of the centennial of the independence of Central America. Among the addresses reproduced are some on measures to repress alcoholism, and one by J. E. Quintana urging that necropsy should be made compulsory in all cases of death in hospitals, the expenses of which are paid by the state.

Personal.—Dr. J. F. Arteaga and Dr. F. M. Fernández were recently elected members of the Academia de Ciencias of Havana. The inaugural address presented by the latter was on "Hygiene of the Eye." Dr. Arteaga is editor of the *Revista de Medicina y Cirugía* of Havana, and Dr. Fernández of the specialist Cuban ophthalmologic journal as well as of the *Crónica Médica-Quirúrgica*.——The resignation of Dr. Rodrigues Lima of the chair of general pathology in the Rio de Janeiro medical faculty has finally been accepted. He has been unable to attend to its duties partly on account of having long been the representative of Bahia in the national congress. Dr. Pinheiro Guimarães has been lecturing in his place, and has now been appointed regularly to the chair.—— The Academia das Sciencias of Lisbon recently elected to membership Dr. A. Peixoto and Dr. A. de Castro, professors in the medical faculty of Rio de Janeiro. Four other Brazilian physicians have been elected at various times, including Dr. C. Ferreira and Dr. Ribeiro da Fonseca.——The *Revista Médica Cubana* states that Dr. S. García Marruz has been appointed associate professor of obstetrics and gynecology in the Havana medical faculty.

FOREIGN

Disappearance of the "Gaceta Catalana."—After forty-four years of existence, the *Gaceta Médica Catalana* of Barcelona has suspended publication, we are informed. This monthly was founded and edited by the late Dr. Rodríguez Méndez and was always essentially his creation.

Alexander Foundation.—Dr. S. Alexander of Berlin has long been a leader in medical organization, and his seventieth birthday recently was celebrated by the foundation of an Alexander Fund by the Greater Berlin Medical Chamber. He was also elected honorary member of the Berlin Medical Society.

Physiology of Helio-Alpine Treatment.—At the last of a series of lectures, given at the Royal Institute of Public

Health, London, on tuberculosis and public health, Mr. A. J. Morland spoke on the helio-alpine treatment of surgical tuberculosis, drawing on his experience as assistant to Dr. A. Rollier at Leysin.

New Surgical Club.—A surgical club has been founded in Dublin of which surgeons of all the hospitals are members, and each in rotation will be "at home" to the other members on his operating morning to demonstrate his methods. Sir W. I. de C. Wheeler, Mercer's Hospital, was in charge at the first meeting. Meetings will be held once a month.

Indian Science Congress.—The eighth annual congress of the medical section of the Indian Science Congress was held, February 1-4, at Madras. Major J. Cunningham, director of the King Institute, Madras, spoke on "India's Debt to Medical Research," and Lieut.-Col. J. W. Cornwall, Pasteur Institute, Coonoor, read a paper on "The Ultimate Aim of Medical Research."

Belgian Professor Visits U. S.—Dr. Emile Gallemaerts, University of Brussels, arrived in New York on the liner *Lapland*, April 2, to attend the International Congress of Ophthalmologists to be held in Washington, April 25 to May 3. Dr. Gallemaerts, who has published a book on the structure of the eye and its diseases, will also give a series of clinics in New York.

To Investigate Spiritualism.—The *Medizinische Klinik* gives the list of members of a committee appointed by the Hamburg Forensic Psychologic Society to study objectively occult phenomena, and enlighten the public, and combat the manifold abuses, as occultism is spreading so rapidly. Besides lawyers and judges, the committee includes the psychiatrist Brennecke, Professor Weygandt, Professor Schäfer and several practitioners.

English Professors at Paris.—The topics of the six lectures delivered recently in English at the Paris medical school, in interchange, were "Circulatory Effects of Mitral Stenosis and Aortic Regurgitation," by Russell-Wells; "Trench Fever," Herringham; "Lymphatic Pathology, with Special Reference to Malignant Disease," by Handley; "Mechanism of Compensation in the Heart," by Starling; "Acute Pancreatitis," by Waring, and "Stereoscopic Vision," by Elliott Smith.

Personal.—Dr. Wolfgang Kohler has been appointed director of the Berlin Psychological Laboratory to fill the vacancy caused by the retirement of Professor Stumpf.——Dr. C. A. Lovatt Evans has been appointed to the university chair of physiology, St. Bartholomew's Hospital Medical College, London.——Mr. C. A. Pannett, F.R.C.S., has been appointed to the university chair of surgery, St. Mary's Hospital Medical School, London.——The Italian silver medal "Al Merito della Sanitá Pubblica" has been conferred on Major Myer Coplans, for services during the World War.

Censoring of Motion Pictures.—Dr. J. Billstrom has an article in the *Bulletin* of the French Ligue d'Hygiène Mentale describing the regulations in Sweden in regard to the censoring of moving pictures. The government began in 1911 to exercise control over the films, and a psychiatrist expert has been appointed to be consulted in certain cases. The peculiar public of the cinemas has to be taken into account. On behalf of the mental hygiene of the nation, Billstrom says, it is better to cut out in case of doubt. Every film of a pronounced sexual character should be examined by an expert, skilled in the psychology of sexual problems, to cut out everything in particular that might divert toward sexual perversion. He specifies several films dangerous in this line.

Medical Work in Asia Minor.—The secretary of the Near East Relief, New York City, reports that thirty-eight hospitals, besides clinics and dispensaries, are maintained by them, to care for the refugees in Armenia and the famine stricken area of Asia Minor. In Alexandropol orphanges there are more than 3,000 children suffering from trachoma. These have been segregated in one of the army barracks for special treatment. Food, it is stated, is the most needed remedy, as in the last analysis most of the deaths were from malnutrition. The conflict between the Turkish nationalists and the Russian Red Army made the work of the American physicians very difficult. At one time 6,000 children had to be transported in the depth of winter from Kars to Alexandropol, a three day journey, in unheated trains and without facilities for heating food.

Hospital Conditions in Soviet Russia.—In a report from the America Relief Administration, it is stated that there were no anesthetics in the hospitals of Saratov last winter, until the relief administration arrived and distributed medicine and hospital supplies. Patients were requested to bring their own anesthetic when undergoing an operation. Minor operations were performed without administering an anesthetic and in some cases leg amputations were made in this manner. Practically no supplies have been given to the hospitals there for eight years, and the surgeons brought their own instruments for use in the operating rooms. Saratov is the seat of a large university, founded in 1909, and the students from the medical department assist in the laboratories and clinics of the hospitals. The Russian unit of the relief administration is attempting to feed 2,000,000 children, and will superintend the transportation and distribution of American corn for 5,000,000 people in the famine districts. This corn was purchased by the $20,000,000 appropriation of Congress.

Deaths in Other Countries

Dr. **H. Kingsmill Abbott,** medical superintendent of Hants County Asylum, England; formerly Stewart lecturer in mental diseases at Trinity College, Dublin, died recently, aged 58.——Dr. **N. Holm,** physician in chief of the Almindelig Hospital at Copenhagen, Denmark, aged 79, father of Dr. H. C. Holm of Washington, D. C.——Dr. **O. Lenoir** of Paris, railway surgeon and surgeon to the Austro-Hungary embassy, an authority on the surgery of industrial accidents, aged 55.——Dr. **L. Burkhardt,** chief of the surgical service of the Nürnberg public hospital, aged 50.——Dr. **G. W. Feine** of Dresden, aged 95.——Dr. **A. Riffel,** formerly professor of hygiene at Karlsruhe, aged 90.——Dr. **William Philipps Dunbar,** professor of hygiene at the University of Hamburg, director of the Hygiene Institute, noted mainly for his pioneer research on hay-fever and his works on cholera. He was born at St. Paul, in 1863, but studied at Giessen, under Gaffky ——Dr. **A. Quintella,** a prominent gynecologist and surgeon of Rio de Janeiro, shot in his office by a woman on whom he had operated a few months before. He was surgeon to the Gamboa Hospital, aged 40.——Dr. **N. F. Laprida,** of Buenos Aires, formerly deputy from San Juan province.

CORRECTION

Steinach's Rejuvenation Operation.—In THE JOURNAL, February 18, our London correspondent called attention to a statement in an article of Dr. Harry Benjamin appearing in the *New York Medical Journal*. Dr. Benjamin writes that the correction as to the cause of death of an individual dying after a Steinach operation was justified, but that our correspondent should also have cited his second sentence, namely, "Patients should, therefore, be warned not to change their mode of living too quickly and radically."

FOR "IDENTIFICATION CERTIFICATES" SEND SELF-ADDRESSED STAMPED ENVELOPE WITH REQUEST TO THE SECRETARY, 535 N. DEARBORN ST., CHICAGO.

Government Services

Langley Bill Passes Senate

The bill, recently adopted in the House of Representatives, has unanimously passed the Senate, appropriating $17,000,000 for additional hospital facilities for disabled former service men. This legislation is the most recent action taken by the government in what is generally recognized as the greatest hospitalization program ever undertaken by any country. The bill was in charge of Senator Fernald, of Maine, who presented statistics to the Senate showing that the government had already expended for former service men and their families since 1918 a total of $1,410,000,000, including $438,000,000 appropriated this year. The measure now goes to the President for signature. Hospital construction under the terms of the measure will be under authority of the U. S. Veterans' Bureau, instead of the Chief Architect of the Treasury Department. Selection of sites and construction of hospital additions and new institutions will be started by the bureau immediately on the signing of the bill by the President.

Medical Care for Lighthouse Service

Representative Winslow of Massachusetts has introduced a bill into the House of Representatives providing for medical and hospital services for the officers and seamen of the Lighthouse Service. The bill was referred to the Committee on Interstate and Foreign Commerce.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 27, 1922.

The National Institute of Industrial Psychology

Psychotherapy is at present receiving much attention in this country, as it is all over the world. The application of psychology to industrial problems is a new departure which is manifest in the foundation of the National Institute of Industrial Psychology. Its object is to assist employers in finding the best way to do each piece of work, to find the best worker for each class of job and the best job for each worker. At a public meeting of the institute held at the Mansion House (the official residence of the lord mayor), Dr. C. S. Myers, F.R.S., who has resigned his appointment as lecturer on experimental psychology at the University of Cambridge to devote himself wholly to the institute, of which he is director, made the following resolution:

In view of the present serious economic situation and the necessity to reduce costs of production and to increase national output, this meeting is of the opinion that (*a*) more complete and scientific development of the nation's human resources and a reduction of misapplied energy are of urgent national importance; (*b*) the methods adopted by the National Institute of Industrial Psychology have been shown to reduce costs of production, to promote the development of individual ability, to eliminate unnecessary effort and fatigue, and to improve the health and well-being of the worker; (*c*) it is imperative that a national fund should be established to enable the institute to extend its sphere and to continue necessary researches.

Dr. Myers asserted that the institute had already increased the output of various departments of certain factories by from 20 to 40 per cent. and at the same time had decreased the fatigue; he stated that the institute also aimed at guiding the young worker in the choice of occupation by applying to him a series of physical and mental tests, and that satisfactory tests had been formulated for shorthand writers and typists, and there were tests for selecting compositors.

The Cinematograph and Vivisection

Lecturing at the Royal Institute, Dr. Chalmers Mitchell, director of the zoological gardens, suggested that a broader use of the cinema in recording experiments on animals would reduce the number of experiments in which it might be necessary to inflict pain. In the *Times*, Prof. E. H. Starling protests against the impression conveyed that painful experiments are used for instruction or are an ordinary means of research. He never performs any painful experiments for the purpose of teaching or demonstration. The occasions on which the infliction of pain in any physiologic experiment for the advancement of knowledge is necessary must be few. In the last thirty-three years, he has probably performed more so-called vivisections than any other physiologist in this country, but never has he inflicted pain. Cinematography he regards as useful for the study of and analysis of certain movements, but not as suited for the study or teaching of other functions in which movement does not form the essential feature; so that it can never be used to the exclusion of experiments. Nor is this desirable. The great object of experimental demonstration is to put the student's knowledge into three dimensions, and to correct purely verbal and two-dimensional ideas he obtains from the study of books and pictures and even films.

The Value of the Gamma Rays from a Large Quantity of Radium

The Medical Research Council has made a report on the effects of the gamma rays from a large quantity of radium. Nearly 5 gm. of hydrated radium bromid (about 2.5 gm. of the radium element) was used. It was collected by the ministry of munitions from an enormous number of gun sights, watch dials and other instruments of war. It was put in charge of the late Mr. Cecil Lyster, Prof. Lazarus Barlow and Prof. S. Russ. Inquiry was first directed to the value in malignant disease of the penetrating radiation of the short wave gamma rays. Special apparatus was devised by Dr. Russ for the use of such an unusually large amount of radium and for the protection of the workers. The radium was distributed among several research centers in London, the provinces, Scotland and Ireland. At each center, attention is being concentrated on particular forms of malignant disease. The following conclusions have been drawn:

The majority of growths exhibit a high degree of resistance. Some few, for example, lymphosarcomas, seem more susceptible; but others, for example, squamous epitheliomas, have proved refractory. The amount of pain due to damage of the skin has been variable and the degree of injury of the skin seems to be influenced by the local vascular supply. Sometimes the effect has been to hasten ulceration. A factor influencing this result seems to be the effect of the radiation on sepsis. If the growth is infected, the radiation seems to favor the growth of the bacteria. With the use of such a large quantity of radium, general reactions occurred, for the whole body received an appreciable amount of gamma radiation. During exposures lasting four or five hours, several patients complained of headache and sickness, followed by general malaise, for days. Sometimes marked edema supervened within twenty-four hours of the exposure. Prof. Lazarus Barlow investigated the histologic changes produced. He found disappearance of cytoplasm from the neoplastic cells, more marked after a single than after two exposures. The intranuclear relations were altered. There was increased tendency to localized degeneration of neoplastic masses. The connective tissue fibers permeating the growth became collagenous.

National Collection of Type Cultures

The Medical Research Council has issued a catalogue of the national collection of type cultures which has been described in previous letters to The Journal. It is maintained at the Lister Institute under the direction of Dr. J. C. G. Ledingham, F.R.S., who is assisted by a curator and an assistant curator. Before the formation of this collection, the institute for many years assisted bacteriologists by means of its own private collection. When two years ago the Medical Research Council made arrangements for a national collection, the institute undertook to provide all necessary facilities. The first object has been to obtain fully authenticated strains of pathogenic organisms, but bacterial and protozoal strains of economic importance are being added when opportunity offers. Experiments are being made with economical and labor-saving methods of subculture. Help is given in the identification of strains received from workers at home and abroad, and it is hoped that such workers will reciprocate by presenting new material to the collection. The scope has been extended to fungi of importance in plant pathology, medicine, veterinary science, technology and soil biology. The council invites the cooperation of bacteriologists and asks that cultures sent either for identification or for maintenance be accompanied by full particulars as to source and date of isolation and, if possible, by clinical and epidemiologic notes. Communications should be addressed to the Curator, Collection of Type Cultures, Lister Institute, Chelsea Gardens, London, S. W. 1.

Leprosy in Great Britain

In the House of Commons, a question was asked as to the incidence of leprosy in Great Britain, coupled with the suggestion that segregation be provided in some fuller way. Sir Alfred Mond, minister of health, said in reply that the number of cases is very small, and that infectivity, in this country at any rate, is too restricted to warrant any measures of compulsory segregation. The present situation is as follows: The principal centers of leprosy in Europe are in Russia, especially the Baltic provinces in the north and such southern provinces as Kherson and Astrakan; in Greece and

Turkey; Spain and Portugal and western Norway—the first and last countries furnishing the greater proportion of the endemics. But cases of leprosy occur in all great cities occasionally, the patients having acquired the disease as natives of or sojourners in some country where leprosy is endemic. In 1897, the late Dr. Phineas Abraham, a dermatologist who devoted special attention to leprosy, estimated that, in the twelve preceding years, there had not been as many as 100 cases of leprosy in Great Britain and Ireland. He could find definite records of only fifty-six. There is no reason to suppose that the cases are more numerous today. No spread of the disease appears to take place from any of the cases.

Chinese Physicians in East London

An outcry has been raised in the press because some Chinese physicians have established themselves as panel physicians in East London. This is a little curious, as Indian, even negro, physicians have been engaged in the same kind of practice for some years without any protest. Their patients do not appear to object. Indeed, the English working classes, especially in the great cities, seem singularly devoid of any color prejudice. Moreover, colored men have an advantage in practicing among the working class, as they are credited with a special skill of their own. They are, of course, fully qualified and on the British register. There are no legal grounds on which they can be prevented from practicing as panel or private physicians. In the provincial towns, there does not seem to be as much tolerance as in London. At a meeting of the Burnley Insurance Committee, an objection was raised because a panel physician had taken a Chinese assistant. However, the clerk pointed out that there was nothing in the rules to stop this. A member of the committee stated that he was on the management committee of the Burnley Hospital, where they had decided not to have any Chinese physicians.

Professor Lazarus Barlow's Visit to the United States

Prof. Lazarus Barlow, who holds the chair of experimental pathology at the Middlesex Hospital Medical School, has left for the United States to investigate the latest methods of cancer research and radium treatment.

PARIS

(From Our Regular Correspondent)

March 31, 1922.

Death of Ranvier

The histologist Louis Antoine Ranvier died at Vendranges recently at the age of 87. Ranvier was born in Lyons, Oct. 2, 1835. He received his degree of doctor of medicine in 1865 and restricted his studies to normal and pathologic microscopic anatomy. He was appointed assistant director of the histologic laboratory in conjunction with the chair of medicine of the Collège de France, and became professor of general anatomy in the same institution, in which this chair had been created for him, in 1875. He had been a member of the Academy of Medicine since 1886, and was elected a member of the Academy of Sciences in 1887, succeeding Charles Robin in the department of anatomy and zoology. He published the "Leçons d'anatomie générale" given at the Collège de France in 1878-1879, a "Traité technique d'histologie" and a "Manuel d'histologie pathologique" written in collaboration with V. Cornil.

Protection of Professional Titles and University Degrees

It has been disclosed by a court action concerning the usurpation of the title of doctor of laws by an election candidate that any one can use this title. The appellate court decided that an election candidate who places after his name on posters and election bulletins the degree of doctor of laws, which he does not possess or which was conferred on him by a foreign university, does not commit an act of usurpation of a university title. As regards the title of doctor of medicine, it is not entirely protected by the French law. The usurpation of that title is subject to a penalty if it is concurrent with the illegal practice of medicine or if the degree has been granted by a foreign university and the person did not mention the name of the foreign university after the title of doctor. Laurent, Amiard and Dalimier, in 1914, introduced in the chamber of deputies the following bill: "Any one usurping a title or a university degree, or having assumed in France a title or a university degree conferred by a foreign country, without mentioning its origin, will be liable to imprisonment of from one month to three years or to a fine of from 100 to 10,000 francs." A few months ago, a similar bill was introduced in the chamber of deputies by Deputies Liouville and Paul Boncour. On the other hand, the department of liberal professions of the Confédération des Travailleurs Intellectuels has adopted this resolution:

> The department of liberal professions, considering that professional titles and scientific or university degrees are not protected by the penal law, which should insure such protection, that the terms of Article 259 of the penal code should be made to include the protection of university degrees and professional titles, and that foreign laws, and especially the Italian penal code, have for many years given such protection, which would be looked on with favor by the public and the interested parties, requests the executive committee of the Confédération des Travailleurs Intellectuels to take the necessary steps to obtain the enactment of a law to complete Article 259 of the penal code (pertaining to the wearing of a costume, uniform or decoration, and the unjustified conferring of an honorary title) by adding the following paragraph: Any one who has adopted illegally and for any motive whatsoever a professional title protected by laws and rules or a university degree conferred by a national institution, shall be liable to the same penalty, namely, imprisonment of from six months to two years or a fine of from 500 to 10,000 francs.

Radium in Madagascar

Recent researches have demonstrated that the region of Sodvizandriana, in the island of Madagascar, contains quite a quantity of radium minerals. If the deposits already known were mined, 4 gm. of radium could be extracted, which would be equivalent to half of what the world has already produced.

Bicentennial of Théophile de Bordeu

A celebration was held in Pau under the presidency of Dr. Doléris of the Academy of Medicine, to commemorate the bicentennial of Théophile de Bordeu (1722-1776), who exercised a great influence on the evolution of French medicine toward the end of the eighteenth and at the beginning of the nineteeth century. Broussais considered de Bordeu the principal founder of pathologic physiology, and it is in his "Recherches anatomiques sur la position des glandes et sur leur action," published in 1751, that we find clearly expressed the fundamental principles of pathologic physiology, based on the comparison of the healthy or morbid condition of tissues and the relation between the structure of organs and the phenomena of disease.

Undoubtedly Broussais and Bichat drew their inspiration from de Bordeu's work, which is filled with original ideas. On the other hand, de Bordeu can be considered as the precursor of Brown-Séquard and Claude Bernard as regards the theory of internal secretions, not only on account of interesting and original considerations which suggested to this eminent physician of the eighteenth century the rôle of genital gland secretions and their stimulating influence on the whole organism (de Bordeu considered them as a "particular stimulus to the machine—*novum quodam impetum faciens*—to which physicians did not pay enough attention"), but also and above all on account of the fundamental principle of his doctrine "that an organ fulfils the functions of focus

and laboratory to a particular humor, which it sends back into the blood after it has prepared it and given it its peculiar character." The idea that venous blood coming from various organs presents differences more or less important is found expressed clearly in de Bordeu's work: "Examine the blood returning from each principal region . . . it is obvious that it has special qualities acquired in the tissue of the parts whence it comes."

MADRID

(From Our Regular Correspondent)

March 9, 1922.

Kidney Function and Glycosuria

Dr. Rodriguez Carracido, professor of biologic chemistry, who is also rector of the Madrid University, delivered a lecture at the Royal Academy of Medicine on a new theory of renal function and glycosuria. Dr. Carracido emphasized the enormous amount of work the kidney must perform. The blood enters the renal arterioles and branches out in the glomerules, entering the capillaries again in the convoluted tubules and finally collecting in the renal veins. Its molecular concentration increases from 0.56 cryoscopically to 1.50 in the urine. How can such enormous concentration be carried out? Through the combustion of glucose, the only substance intended by the body for combustion and production of energy. It is because of this combustion that in normal cases no glucose reaches the urine from the 1.50 gm. per liter in the blood. Chemists and pathologists have brought out in recent studies the biologic value of molecular concentration of solutions and the fact that their increase is the cause of pathologic phenomena formerly attributed to special poisons. On the other hand, there are cases in which glucose makes its way into the urine: 1. Through a sugar excess in the blood. In this case the increase over the normal forces into the kidney cells more sugar than can be burned and a part reaches the urine. 2. When there is a glycosuria without a sugar excess in the blood. In this case, the problem is very difficult. In order to study it, Dr. Carracido used glycosuria caused by phlorizin. It is a fact that the injection of phlorizin causes a transitory diabetes with no increase in the blood sugar.

Rodriguez Carracido has studied experimentally the action of phlorizin in several chemical mediums, noting that it acts only on albuminoid solutions, which it precipitates. This is the explanation of the action of phlorizin on cells which are attacked in their albuminoid content. Once injured in this way, the renal cells permit the passage of sugar from the blood. Incidentally, he stated that a phlorizin solution causes glycosuria in all animals save rabbits. These rodents feed on plant roots. Phlorizin is a glucosid found in the bark of some roots and it is probable that rabbits have fed during the ages on phlorizin-containing roots, becoming immunized to this glucosid.

Physiology of the Corpus Callosum and Surgical Operations on This Organ

Dr. Rodriguez Lafora presented at the Royal Academy of Medicine a report illustrated with moving pictures on experiments made on six monkeys, in order to study the function of the corpus callosum. Surgical operations were carried out by Dr. Goyanes, the surgeon of the General Hospital of Madrid, who made sections in the front, central and posterior parts, both to the right and left of the falx cerebri. These experiments demonstrated that the section of the corpus callosum is followed in monkeys by a paralysis of the upper or lower feet, this depending on the location of the section, i. e., the anterior or the posterior part. Besides, both the right and the left section are followed by a series of phenomena identical to those of crossed hemiplegia. These phenomena may be explained according to Monakow's theory that in cerebral injuries, besides the local lesion, inhibitory phenomena are produced in structures connected directly with the injured site. As the monkeys do not have, as man has, a hemisphere controlling its mate, hemiplegic symptoms appear in them, after sections at the right of the falx cerebri. The location of these symptoms varies according to the site injured. In man, the control exercised by the left brain hemisphere causes the lesions in the corpus callosum to be accompanied invariably by right hemiplegia.

Dr. Goyanes summarized his experience in the surgery of the corpus callosum, advising puncture and evacuation of the lateral ventricles in cases of hydrocephalus. He has performed this operation more than twelve times. In cases of acute hydrocephalus, this method may be followed by a cure, as happened with a patient who had choked disk and incipient optic neuritis. In a few days she was able again to detect the light, then color and shape of objects, and finally she was able to read without glasses. On the other hand, in congenital hydrocephalus, while the decrease of the cerebral pressure acts symptomatically, it is never curative, as illustrated by his twelve cases. He insists, however, that the operation, although not curative, is very beneficial, since it improves the patient's condition and relieves painful symptoms. Intracerebral pressure may be enormous in hydrocephalus. He has seen a case in which the fluid was so pent-up in the skull that it forced its way into the sheath of the olfactory nerves and came out through the nose in an almost continuous dropping. This relieved the patient so much that when a cold obstructed the nasal passages she always got worse; in fact, she died as the result of a cold. Dr. Goyanes has also resorted to the puncture of the corpus callosum in three cases of brain tumor accompanied by a marked increase of intracerebral pressure, which were not suited for radical surgery. Three also improved with this method. Dr. Goyanes recommends this form of operation, the technic of which is simple, in cases in which it is indicated.

Retirement of Dr. Isla

Dr. Isla, the dean of the provincial board of charities of Madrid, has retired. Dr. Isla became famous as an anatomist and surgeon in the General Hospital of Madrid, in the golden age of surgery following the studies of Lister, whose friend Isla was. Dr. Isla is now offering his optional course of surgery on the cadaver. He deserves credit for organizing the Madrid Maternity. The provincial government of Madrid, on the occasion of his retirement, conferred on him the title of honorary dean.

Tribute to Ferrán

Dr. Pulido, the president of the National Public Health Board of Spain, who is also a life senator, recently gave a banquet at the Ritz Hotel, which was attended by several ministers, heads of political parties, prominent physicians, journalists and writers. At the banquet, in front of each guest's seat, there were two large volumes written by him and published at the expense of the government. The purpose of these books was to bring out the work accomplished by Dr. Ferrán, a scientist to whom bacteriologic science is much indebted. He has, however, been grossly neglected in Spain because of his modesty, which makes him prefer life in the laboratory to the brght light of the academies. Dr. Pulido recalled how Ferrán performed inoculation for the first time with live cholera bacilli in the cholera epidemic of 1885, afterward vaccinating entire towns, which were thus proctected against the scourge that caused so many losses in Spain. Ferrán's primacy has been acknowledged throughout the world. He, before anyone else had used the methods, vaccinated the disinfecting brigade of Barcelona

against typhoid fever. His method was followed afterward by other bacteriologists, such as Vincent. Finally, Ferrán has built a complete theory of tuberculosis and originated a vaccine to combat this disease, which is receiving a great deal of attention. The two books written by Dr. Pulido are entitled "Vae Inventoribus Magnis" and "Precursor, Representativo y Mártir."

A Warning Against Chinese Eggs

Dr. Martínez Vargas, the dean of the Barcelona Medical School, has spent a few days in Madrid, and during his stay he delivered a lecture before the public health society. Dr. Martínez Vargas talked on infant health and incidentally called attention to the increasing imports of eggs, now being brought in from China in large quantities. Perhaps owing to poor transportation they arrive in a very unsatisfactory condition and in some cases they have caused bowel disturbances, with symptoms very similar to typhoid or paratyphoid infection.

BUENOS AIRES

(From Our Regular Correspondent)

May 1, 1922.

Antituberculosis Campaign

The public assistance department has advised the further extension of antituberculosis friendly societies. There are already several in existence, such as the one organized by mail and telegraph employees. Besides, the mutual assistance societies have a membership of 600,000. It is considered that at least for some time private organizations will offer the most efficient means for combating tuberculosis.

There has been opened this month, at La Plata, an antituberculosis dispensary established by the antituberculosis league. Its creation is due to the initiative of a newspaper man, E. Mongiardino. The dispensary includes departments of clinical medicine, pediatrics, laryngology, surgery and roentgen rays, and a laboratory and pharmacy. There is a social prophylaxis section, with visiting nurses and a disinfecting service, etc. This section will also be in charge of education and propaganda, collection of statistics, etc. Expert medical service and nursing assistance are rendered free of charge.

Food Adulteration

The public health department of the province of Buenos Aires, which has shown much energy in protecting the people against patent medicines, etc., has just forbidden the sale of many harmful or equivocal food products. This caused some conflict with the municipal authorities of La Plata, who claimed for themselves these supervising functions.

Buenos Aires Hospitals

There is an average of 6,000 patients in the local hospitals, with about 1,000 admissions weekly. In the national, semiprivate and private hospitals, the number of patients is about 5,000.

Local sanitary conditions are good, but ships from Europe continue to bring patients with influenza, bronchopneumonia, and pneumonia.

Typhus Fever

The public assistance authorities of Tucuman have verified the occurrence of a case of typhus fever. This disease is, however, decreasing in the small original foci.

National and Foreign Biologic Products

Since the war, there has been an increase in the use of foreign biologic products at the expense of national products. This is shown in the amount of sales of the preparations of the national department of public health. This fact is explained on three grounds: 1. Better external presentation of foreign products. 2. Well organized propaganda on their behalf. 3. A campaign against national products. However, for patriotic reasons, physicians should employ the home products, since: 1. They are just as good as the best foreign products. 2. They are cheap. 3. The funds remain in the country. 4. They help to support useful public health and research institutions. It should be added that harmless foreign products such as antituberculosis serums and vaccines have had a large sale since the national department of health took the rather strange attitude that it is compelled to authorize the sale of any product, no matter how useless, provided it does no harm.

New Rector of the University

Dr. Arce, professor of clinical surgery in the Buenos Aires Medical School, is now rector of the university, a position to which he was lately appointed.

BERLIN

(From Our Regular Correspondent)

March 25, 1922.

Reorganization of the Berlin First-Aid Service

The *Deutsche medizinische Wochenschrift* published recently a report of the medical director of the first-aid service of Berlin, from which it appears that there are forty-three first-aid stations located in various parts of the city, some of which are organized as independent first-aid stations, while others are connected with hospitals. These stations are provided with a limited number of instruments and a small supply of bandaging material and other things needed for first aid, including a pulmotor. They are also equipped with a case of instruments and supplies that the physician may take with him when called to outside emergency cases; for the first-aid stations not only give first aid on the premises but also respond to telephone calls and demands from other sources. An endeavor is constantly being made to develop and improve the service. Of late, the fire department has been called on in emergencies to transport the first-aid physician to the scene of an accident. In the case of multiple accidents or catastrophes, the first-aid stations are so organized that two or more, or in extreme cases, all the stations can cooperate. Provision is made in every first-aid station to accommodate temporarily persons taken suddenly and severely ill; also those suffering from alcoholic poisoning. The medical service of the first-aid stations is in the hands of practicing physicians who put in part time. At present, the fees paid are 10 marks an hour in the daytime and 50 marks an hour for night service. At every station there are three attendants to aid the physician and take charge of the nursing. This description applies to such stations as are located in shops or barracks. In the hospitals, the first-aid station is merely an appendix of the whole hospital organization. It remains to be seen whether, in case the work should be heavy, it is going to prove feasible to combine first-aid service with hospital service, in this manner.

Another feature of the Berlin first-aid service is the transportation of the sick. At present, about twenty motor ambulances, scattered over the city, are available and are transporting more than 200 patients daily. After the transporation of an infectious case, the ambulance is disinfected by spraying and washing with a solution of cresol in soap, while the blankets and other material are cleansed with compressed steam. The ambulances are ordered by the central office of the first-aid service, by any of the first-aid stations, or by the police. The motor ambulances used for the transportation of patients are of the very best construction, especial attention being paid to the quality and functioning of the springs, since, after a long period of testing of a

certain type of spring, the use of litters inside the ambulance has been discontinued. The central office of the first-aid service constitutes the backbone of the whole system, as it has telephonic connection by direct wires with all the hospitals, all first-aid stations, all the ambulance stations and numerous official authorities. One great convenience, which was proposed by Professor Schwalbe twenty years ago, is the fact that the central office keeps on file a list of the available vacant beds in the various hospitals. Before this plan was introduced it frequently happened that a patient had to inquire at several hospitals before he found accommodations, whereas now, by telephoning to the central office of the first-aid service, which receives several times a day information from hospitals in regard to vacant beds, any one can learn where a bed is available. After a bed is engaged, it is held for several hours at the disposal of the patient, awaiting his arrival. The importance of such a bureau of information for a metropolis the size of Berlin was realized more particularly during the last influenza epidemic. Through the aid of the central office, it was possible, by the prompt information furnished in regard to beds becoming available and stations being opened up, and by the transportation of the mildly sick from one hospital to another, to provide hospital accommodations near by for all influenza patients requiring hospital treatment.

The first-aid service as a social institution is not fully self-supporting. Proper consideration of the rights of general practitioners demands, however, that the first-aid stations shall not be made use of by the public in such a manner as to bring detriment to the medical fraternity in general. On the other hand, every person in need of aid must receive in the first-aid stations the care and attention he requires, without previous inquiry as to his economic or financial status. If he is in possession of funds, he is charged the same fees that practicing physicians charge the general public. The annual excess of expenditures over receipts for the first-aid service, proper, amounts, at the present time, to 3,500,000 marks; also the transport service for the sick requires an annual appropriation of about 3,000,000 marks. These deficits are supplied out of the city treasury. No charge is made for information furnished the public by the central information bureau.

Institute of Research for Roentgenographic Technic

March 11, an institute of research for roentgenographic technic was opened in Stuttgart. The task that the laboratory sets for itself is the investigation of the physical bases for the medical application of roentgen rays; more particularly, the perfection of dosimetry in its bearing on roentgen-ray injuries. The laboratory will also undertake to solve problems connected with the application of roentgen rays to the testing of various materials and substances, including studies on the structure of metals; for example, changes in the structure of steel, due to heating, rolling, pressing, etc. The effects of roentgen rays on chemical processes will also be studied.

While the laboratory is primarily an institute of research, the equipment will be made available for instruction purposes by the organization of lecture courses for electrical engineers and for physicians. Stuttgart is distinguished, therefore, in having the only polytechnic in Germany at which roentgenographic technic is taught.

With the aid of the Deutsche Röntgengesellschaft and the German manufacturers of roentgen-ray apparatus, the laboratory was established in 1919 as a foundation institute. The German manufacturers placed gratuitously all the roentgen-ray apparatus needed (valued at almost 1,000,000 marks) at the disposal of the institute. As a result of the far-seeing vision of the government of Wurttemberg, a special laboratory building, equipped with all the necessary protective devices, has been erected at public cost. It was due in great measure to the efforts of Dr. Glocker, the director of the new institute, that the institute was established.

Recent Researches on Skulls

At the last meeting of the Berlin Anthropologic Society, the Berlin anatomist Dr. Mair gave an illustrated lecture on the bregma (the point of junction of the sagittal and coronal sutures), discussing more particularly the pithecanthropus. Mair has made researches on 2,000 skulls, among which were the skulls of many different races—negroes of central Africa, bushmen, etc. He gave a morphologic analysis of the bregmatic eminence on the human skull, based on scientific data, including studies in comparatiye anatomy, and believes he has discovered the explanation of the form and position of the bregma and the coronal suture on the skull. Mair extended his researches to the remains of the Neanderthal skull and the Spy, Cro-Magnon and Aurignac skulls. The Cro-Magnon skulls present flattened foreheads, while the skulls of the Aurignac man and the man of Oberkassel show slightly protruding foreheads. Professor Klaatsch found this eminence also on the skulls of Australians; it is also found on the skulls of Tasmanians, in the man of Neu Pommern and in the Neanderthal man. According to Mair, the protrusion of the forehead does not result from an abnormal growth of the cranial sutures, but is due to pressure from within the brain.

It it is of interest to note that the skull of Goethe and likewise that of Wilhelm Waldeyer present such eminences. Against the assumption that the bregmatic eminence is the result of chance, we may cite its frequent occurrence in modern skulls. Following the statements made by Gustav Schwalbe, the lecturer gave a description of the skull-cap of *Pithecanthropus erectus*, which was found by Dubois in Java, some thirty years ago, along with a femur bone and a tooth. Whereas Rudolf Virchow considered these remains to be those of an anthropoid ape, Schwalbe recognized in them a combination of human and animal characteristics. Mair, however, expressed his opinion to the effect that the pithecanthropus skull did not differ essentially from other types of human skulls, and that it coincided very closely with that of the Aurignac man. An extensive discussion following the lecture led to no common agreement with reference to the position of the pithecanthropus in the chain of highly organized mammals.

Marriages

WILLIAM PEPPER, dean of the Medical School of the University of Pennsylvania, Philadelphia, to Mrs. Phoebe Voorhees Crayton, in Philadelphia, April 3.

MARTIN F. KOCEVAR, Steelton, Pa., to Miss Harriet C. Oenslager of Harrisburg, Pa., March 14, in Atlantic City, N. J.

FRANK S. SCHOONOVER, Rochester, Minn., to Miss Ann Maurice Simmons of Fort Worth, Texas, in February.

EARL HARLAN to Miss Wanda Hudson, both of San Luis Obispo, Calif., in Santa Barbara, March 9.

DONALD AUSTYN CURTIS to Miss Margaret Elizabeth Freer, both of Hackensack, N. J., April 18.

WILLIAM PARKS BELK to Miss Elizabeth A. Cassidy, both of Philadelphia, February 10.

JAMES M. MITCHELL to Miss Ruth Huntington Forbes, both of Pontiac, Ill., February 22.

WILLIAM A. BORIN to Miss Phoebe Grinnell, both of Bartonville, Ill., February 13.

VANDEVEER TABER CARR to Miss Viola Myers, both of Tiffin, Ohio, February 22.

Deaths

H. Bert Ellis ✠ Los Angeles; University of Southern California Medical School, 1888; died at his home, April 15. Dr. Ellis was born in Maine, May 17, 1863. He received his bachelor degree from Acadia College, Wolfville, N. S., in 1884, and his medical degree from the University of Southern California in 1888. Following his graduation he took postgraduate work in Germany and in Austria, after which he returned to the United States and took up the practice of medicine in Los Angeles. Since 1893 he devoted himself exclusively to diseases of the eye, ear, nose and throat, holding the professorship in ophthalmology in his alma mater from 1896 to 1915. Dr. Ellis was a member of the American Rhinological, Laryngological and Otological Society. He was a member of the first House of Delegates of the American Medical Association and served in ten annual sessions. He was also a member of its Board of Trustees from 1917 to 1920.

Joseph Walter Bannon, Cranston, R. I.; Medico-Chirurgical College of Philadelphia, 1915; member of the Rhode Island Medical Society; served during the World War, M. C., U. S. Army, with the rank of lieutenant, at Camp Gordon, Ga.; appointed acting assistant surgeon, U. S. Public Health Service in 1919 and transferred to the U. S. Veterans' Bureau in December, 1921, as examining physician; police surgeon of the city of Cranston and school medical inspector for the third district, died, March 16, aged 32, at the St. Joseph's Hospital, Providence, following an operation for ulcers of the stomach.

Laban T. Bremerman ✠ Downington, Pa.; Medical Department of Columbian University, Washington, D. C., 1874; surgeon for the Pennsylvania Railroad; served on the school board for twenty-five years; burgess of Downington for two terms; died, March 31, aged 72, at the Chester County Hospital, West Chester, from cerebral hemorrhage.

Reginald Huber Meade ✠ Kansas City, Mo.; Beaumont Hospital Medical College, St. Louis, 1896; served in the M. C., U. S. Army, with the rank of major during the World War, overseas; consultant to the United States Veterans' Bureau and Hospital; former president of the Kansas City Academy of Medicine; died, March 10, aged 50.

George Gordon Needham ✠ New York; Bellevue Hospital Medical College, New York, 1865; formerly house physician at the Nursery and Child's Hospital and resident physician at the Infant's Home, New York; died, April 5, aged 80, from pneumonia.

Herman G. Klippert, New York; Medical Department of Columbia College, New York, 1889; member of the Medical Society of the State of New York; member of the American Medico-Pharmaceutical League; died, April 1, aged 65, from heart disease.

Frank Richard Burdeno, Sturgis, Mich.; Detroit College of Medicine, Detroit, 1907; member of the Michigan State Medical Society; organizer of the first radio supply station in the town; died, March 23, aged 47, from septicemia and erysipelas.

George Arthur Bingham, Toronto, Ont.; Trinity Medical College, Toronto, 1884; associate professor of clinical surgery and clinical anatomy, University of Toronto Faculty of Medicine; died, March 3, aged 61, from pleurisy and pneumonia.

J. Alexander Davisson ✠ Dayton, Ohio; Miami Medical College, Cincinnati, 1882; formerly on the consulting staff of the Miami Valley Hospital; member of the board of education; died, March 30, aged 64, from arthritis.

Norvin Earl Greene, Victoria, Miss.; Medical Department of the Tulane University, New Orleans, 1910; was found dead in his cell in the city prison, presumably from an overdose of morphin, March 21, aged 39.

George Alexander Ramsauer, China Grove, N. C.; Jefferson Medical College, Philadelphia, 1880; member of the Medical Society of the State of North Carolina; died, March 11, aged 64, from chronic nephritis.

Wesley Asbury Rape ✠ Victoria, Texas; Missouri Medical College, St. Louis, 1887; specialized in ophthalmology, otology, laryngology and rhinology; died, March 27, aged 57, in a hospital at Cuero.

Edwin George Bennett, Petaluma, Calif.; Rush Medical College, Chicago, 1878; member of the Medical Society of the State of California; died, February 21, aged 68, following a long illness.

Ernest Arey Dyer, Salem, Mass.; Medical School of Harvard University, Boston, 1904; formerly physician to the State Infirmary, Tewkesbury; died, March 21, aged 46, in New York.

John S. Phillips ✠ Pittsburgh; Miami Medical College, Cincinnati, 1876; formerly principal of Mount Oliver School; died, March 31, aged 69, at the Western Pennsylvania Hospital.

Oan J. Thompson, Reading, Pa.; Jefferson Medical College, Philadelphia, 1895; formerly on the staffs of the St. Joseph and Reading hospitals; died, March 31, aged 51, from chronic nephritis.

John C. Willis, Chicago; Kentucky University Medical Department, Louisville, 1906; formerly of Louisville, Ky.; died, April 12, aged 55, from heart disease and pneumonia.

John Joseph Donovan ✠ Litchfield, Minn.; University of Minnesota College of Medicine and Surgery, Minneapolis, 1901; died, March 18, aged 43, from angina pectoris.

Benjamin F. Chiles, Pecan, Ark.; Physio-Medical College, Indianapolis, 1884; died, March 26, aged 63, at St. Joseph's Hospital, Memphis, Tenn., following a long illness.

Katsugoro Haida, Honolulu, Hawaii; Medical College of the Pacific, San Francisco, 1897; member of the Medical Society of Hawaii; died, February 9, aged 58.

James G. Turner ✠ Houghton, Mich.; University of Maryland School of Medicine, Baltimore, 1878; was found dead in bed, April 4, aged 65, from heart disease.

Henry Briscoe Thomas ✠ Baltimore; University of Maryland School of Medicine, Baltimore, 1888; died suddenly, April 2, aged 57, from heart disease.

Charles DeWitt Clark, Minneapolis, Kan.; Hahnemann Medical College and Hospital, Chicago, 1867; Civil War veteran; died March 26, aged 80.

Preston E. Waddell, Natchitoches, La.; Medical Department of the Tulane University of Louisiana, New Orleans, 1895; died, March 30, aged 60.

Earl Emory Cannady ✠ Prior Lake, Minn.; Northwestern University Medical School, Chicago, 1909; died, March 30, aged 36, at Monrovia, Calif.

J. DeWitt McConnell, South Pasadena, Calif.; Miami Medical College, Cincinnati, 1877; died, April 6, aged 73, from cerebral hemorrhage.

Pierre McDermid ✠ Fontanelle, Iowa; Rush Medical College, Chicago, 1898; member of the state legislature; died, March 29, aged 45.

Martin V. B. Clark, Sutton, Neb.; Cleveland Medical College, Cleveland, 1869; died, March 22, aged 71, following a short illness.

Johan B. H. Feenstra, Lake View, Iowa; University of Groningen, Holland, 1864; died, March 18, aged 79, at Whittier, Calif.

Peter Stephen Mallard, Detroit; Meharry Medical College, Nashville, Tenn., 1920; died, February 2, aged 33, from pneumonia.

Ignatius Walthall Powell ✠ St. Louis; Barnes Medical College, St. Louis, 1907; died, April 6, aged 46, from pneumonia.

Russel W. Brown ✠ Bay City, Mich.; Michigan College of Medicine and Surgery, Detroit, 1889; died suddenly, April 3, aged 57.

Stephen P. Tracy, Walkerton, Ind.; Hahnemann Medical College and Hospital of Chicago, 1886; died, March 24, aged 68.

William F. Shawley, Orofino, Idaho; College of Physicians and Surgeons, Keokuk, Iowa, 1882; died, February 12, aged 70.

William D. Vinson, Atlanta, Ga.; Southern Medical College, Atlanta, 1882; was shot and killed, March 30, aged 61.

Moses Henry Green, Philadelphia; Jefferson Medical College, Philadelphia, 1882; died, April 4, aged 75.

Hyman Chester, Providence, R. I.; Maryland Medical College, Baltimore, 1900; died, March 29, aged 41.

Leroy W. Davis, Nauvoo, Ala.; Medical College of Georgia, Augusta, 1853; died, March 28, aged 93.

Frank C. Jones, Los Angeles; University of Michigan, Ann Arbor, 1880; died, March 23, aged 74.

✠ Indicates "Fellow" of the American Medical Association.

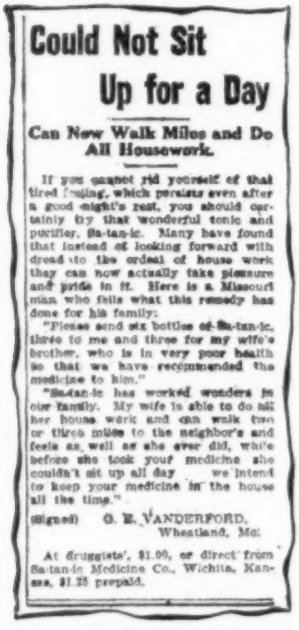
The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

MORE MISBRANDED NOSTRUMS

Abstracts of Recent Notices of Judgment Issued by the Bureau of Chemistry of the United States Department of Agriculture

Sa-Tan-Ic.—The Sa-Tan-Ic Medicine & Mfg. Co., Wichita, Kan., shipped in October, November and December, 1920, and January, 1921, a quantity of "Sa-Tan-Ic" from Kansas to Missouri. Specimens of the nostrum were analyzed by the Bureau of Chemistry, which reported that analysis showed it to contain magnesium sulphate (Epsom salt), cascara bark extractives, salicylic acid, methyl salicylate, oil of peppermint, water and a trace of alcohol. The trade package contained such claims as:



Could Not Sit Up for a Day

Can Now Walk Miles and Do All Housework.

If you cannot rid yourself of that tired feeling, which persists even after a good night's rest, you should certainly try that wonderful tonic and purifier, Sa-tan-ic. Many have found that instead of looking forward with dread to the ordeal of house work they can now actually take pleasure and pride in it. Here is a Missouri man who tells what this remedy has done for his family:

"Please send six bottles of Sa-tan-ic, three to me and three for my wife's brother, who is in very poor health so that we have recommended the medicine to him."

"Sa-tan-ic has worked wonders in our family. My wife is able to do all her house work and can walk two or three miles to the neighbor's and feels as well as she ever did, while before she took your medicine she couldn't sit up all day . . . we intend to keep your medicine in the house all the time."

(Signed) O. E. VANDERFORD, Wheatland, Mo.

At druggists', $1.00, or direct from Sa-tan-ic Medicine Co., Wichita, Kansas, $1.25 prepaid.

"Blood Purifier. . . . System Renovator. . . . For Stomach, Kidney and Liver Complaints, Dyspepsia, Appendicitis, Asthma and Shortness of Breath."

"The Woman's Friend, For Weak Back, Bearing Down Pains and Sick Headache."

"Heart Trouble and . . . appendicitis, . . . typhoid and such diseases."

"Rheumatism and all Blood Disorders. . . . Kidney Trouble Overcome. . . . Inflamation of The Gallbladder. . . . Cured by Taking Sa-Tan-Ic."

These and similar claims were declared false and fraudulent as the article did not contain any ingredient or combination of ingredients capable of producing such curative effects. In March, 1921, decrees of condemnation and forfeiture were entered and the product was declared misbranded. The court ordered that the stuff be released to Sa-Tan-Ic Medicine & Mfg. Co. on payment of the costs of the proceedings and the execution of a bond in the sum of $800.—[*Notice of Judgment No. 9659; issued Jan. 7, 1922.*]

Banes' Kidney and Rheumatic Remedy.—Dr. Artilens Valerius Banes, who did business as the "Dr. A. V. Banes Medicine Co." St. Joseph, Mo., shipped in October, 1918, a quantity of this nostrum which was misbranded. The Bureau of Chemistry reported that analysis showed the preparation to contain sodium and potassium compounds of iodin, acetic acid, nitric acid and salicylic acid, vegetable extractive matter, sugar, alcohol and water. It was falsely and fraudulently represented as an effective preventive, treatment and cure for diseases of the kidney, liver and bladder, gravel, gallstones, liver colic, nasal catarrh, diabetes, malaria, eczema, and to rid the system of nicotin. In September, 1920, Banes pleaded guilty and was fined $10 and costs.—[*Notice of Judgment No. 9663; issued Jan. 7, 1922.*]

Silverstone's Sexual Pills.—The S. Pfeiffer Mfg. Co., St. Louis, Mo., shipped in April, 1920, a quantity of "Dr. Silverstone's Sexual Pills" from the State of Missouri to the State of Washington. The federal chemists reported that the product was a sugar-coated pill consisting essentially of plant extractives, including resins, nux vomica, alkaloids and damiana. The product was falsely and fraudulently labeled "For Vim, Vigor and Vitality." In April, 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 9667; issued Jan. 7, 1922.*]

Nux-Auro-Papanad.—A quantity of this product was shipped in April, 1919, from the State of New York to the State of Washington. The government report does not give the name of the shipper or the name of the manufacturer. According to material in the Propaganda, a product of this name was put out by the American Apothecaries Company, New York City. When analyzed by the Bureau of Chemistry the preparation was reported to consist of red sugar-coated pills containing strychnin, salts of zinc, calcium and lithium and creosote. The preparation was falsely and fraudulently labeled:

"Restorative, Aphrodisiac. . . . Indicated in . . . Vaso-Motor-Paresis, Neurasthenia, Melancholia, Malnutrition, General Debility, Sexual Exhaustion."

In November, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 9668; issued Jan. 7, 1922.*]

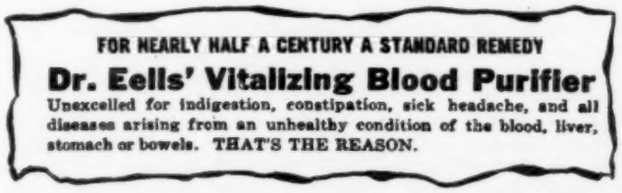
Paulette's Brand Tansy Tablets.—Fay & Youngs Rubber Corp., New York City, shipped in May, 1920, a quantity of this product from New York City to the State of Washington. The preparation was labeled in part:

"The most reliable tablets known for the suppression of the menstrual function.

"Best results are obtainable in using The Renowned 'Paulette Brand.' . . . Tansy, Cotton Root, Pennyroyal and Apiol Tablets . . . justly famous Regulator Tablet."

The federal report does not give the results of the chemists' examination but states that the article contained no ingredient or combination of ingredients capable of producing the effects claimed. In January, 1921, the claims were declared false and fraudulent; judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgement No. 9669; issued Jan. 7, 1922.*]

Eells' Vitalizing Blood Purifier.—Elbert Payton, who did business at Centerville, Iowa, as "F. Eells & Sons Co.," shipped in April, 1919, a quantity of "Dr. Eells' Vitalizing Blood Purifier" which was misbranded. The federal chemists reported that the preparation was a water-alcohol solution consisting essentially of sugar, Epsom salt, laxative plant material and traces of oils of wintergreen and sassafras. The



FOR NEARLY HALF A CENTURY A STANDARD REMEDY

Dr. Eells' Vitalizing Blood Purifier

Unexcelled for indigestion, constipation, sick headache, and all diseases arising from an unhealthy condition of the blood, liver, stomach or bowels. THAT'S THE REASON.

preparation was falsely and fraudulently represented as an effective treatment and cure for sick headache, dyspepsia, ringworm, rheumatism, diseases of the blood, malaria, female weakness, suppressed menstruation, old sores, goiter, sore eyes, gallstones—and some other things! In March, 1921, Payton pleaded guilty and was fined $50 and costs.—*Notice of Judgment No. 9693; issued Jan. 7, 1922.*]

LeSieur's Syrup of Tar and Cod Liver Extract.—Philias E. LeSieur, Boston, Mass., did business as the Ocean Mills Co. In July, 1919, he shipped a quantity of this preparation which was misbranded. The Bureau of Chemistry reported that the stuff contained chloroform, 2.45 minims to each fluid-ounce, menthol, oil of tar, ammonium salts, sugar, water, and a small quantity of alcohol. The preparation was falsely and fraudulently represented as an effective preventive and cure for bronchitis, whooping cough, asthma, "consumption at its first stage," and all diseases of the respiratory organs. In

November, 1920, LeSieur entered a plea of *nolo contendere* and was fined $25.—[*Notice of Judgment No. 9696; issued Jan. 7, 1922.*]

Correspondence

MEDICAL SUPERVISION OF COMMERCIAL LABORATORIES

To the Editor:—In May, 1921, the following resolution was passed by the Comitia Minora of the Medical Society of the County of New York:

"As a matter of public policy, it is recommended to the profession that their support of commercial laboratories be withdrawn, and wherever possible, patients be referred to laboratories under the supervision of competent and qualified medical men."

On close reading, one will see that this resolution is very comprehensive and applies with equal force to both clinical-pathologic and roentgen-ray laboratories. Although clinical-pathologic laboratories may handle only specimens received from doctors' offices, nevertheless the Comitia Minora has ruled as good policy that such laboratories also should be controlled and supervised by competent medical men.

A lay technician who opens his own office and works entirely independent of medical supervision is violating the medical practice act when he gives out written and verbal diagnoses of pathologic conditions, in that he is practicing medicine without a license. Moreover, in the case of the roentgen ray, it is decidedly bad ethics for an unlicensed, unsupervised male technician to handle either male or female patients who may be in various stages of sickness. In the third place, the roentgen ray itself, used either in diagnosis or in treatment, has a powerful action and is capable of doing great harm in the hands of such unsupervised technicians.

Many of the commercial laboratories are being operated in direct violation of the medical practice act; even though there may be a physician connected with the institution, there is still a violation of the act (at least in New York State) because in the name of the company he is practicing "under a name other than his own" (Article 8, Section 174). In many cases the diagnoses are made entirely by lay technicians, and the physician's name is signed by the physician, without his seeing either the patient or the films. One large and flourishing commercial laboratory in New York City is owned and run by a chiropractor who believes and advertises that his laboratory is the largest and the best in the world, because he has the liberal support of the medical and dental professions to prove it.

By means of fee schedules offering cheap rates and, in many cases, discounts to physicians (some in New York City offer as high as 40 per cent.), these laymen and commercial laboratories induce good and responsible medical men to patronize them. Yet, in spite of the low rate, when one considers the irresponsible quality of service rendered, there is in reality very little difference in cost between such a service and that of a reputable medical man. A dollar will not buy five dollar service. If there is a volume of work to be done, the medical radiologists can put their laboratories also on a quantity production basis and lower fees in a legitimate manner, still rendering high grade, careful medical diagnostic aid.

It should be of interest to the profession to note a ruling that has been issued by New York State Industrial Commissioner Henry D. Sayer:

"It has come to my attention that certain x-ray technicians who are not medical graduates are in the habit of taking x-ray pictures of pathological conditions and submitting their findings upon such pictures to the insurance carriers and to the department. You will please instruct the referees of the department and claim examiners that in no case are they to accept the findings of an x-ray picture unless such findings are signed by a graduate in medicine. In my opinion, it would be entirely improper to accept as evidence the medical conclusions of one who is not a licensed physician."

Both this and the resolution of the Comitia Minora indicate a consciousness on the part of the medical profession that commercial laboratories should be under management only of some licensed practitioner, and that laymen should work only under direct medical supervision.

Until the medical profession acts as a unit to bring about legislation to correct such abuses, nonmedical, unlicensed technicians will continue to work independently of medical supervision, and to give out verbal and written diagnoses which serve as unprofessional and insecure foundations for diagnosis and treatment. Without waiting for legislation, however, the medical profession as a whole can work toward this end by refusing to patronize in any way any laboratory or technician not supervised directly by a medical man. We must cooperate to the fullest extent on this as well as on other matters of professional and public interest if we are to prevent medicine from becoming commercialized, the prey of the "charlatan" and the "quack."

I. S. TROSTLER, M.D., Chairman,
BYRON C. DARLING, M.D.,
GEORGE M. LANDAU, M.D.
Committee, Radiological Frauds and Improper Practices, The Radiological Society of North America.

POSTGRADUATE INSTRUCTION IN VIENNA

To the Editor:—The American Medical Association of Vienna was established in 1904. The objects of the association are to promote the social intercourse and the scientific advancement of its members, to provide information in regard to the scope and relative value of courses, and to furnish data for the rapid orientation of new members in regard to pensions, rooms, restaurants, etc. (Article II of the association's constitution). It has also regulated, in agreement with the teachers, the different fees charged for postgraduate work, and arranged all the courses taken by American physicians. It worked to the satisfaction of both the American physicians who came to Vienna for postgraduate study and the teachers of the Vienna University. A great many courses were placed under the control of the American Medical Association of Vienna, as far as the personnel, number of members, and hours were concerned. These were called book courses and were given for a fee approved of by the society. The so-called "Blue Book" described all these courses and explained how they were conducted. The Blue Book was issued every year on January 1, and the members of the American Medical Association of Vienna, as well as the teachers, abided by its rules. It was not only the quality of the teachers but also the propaganda which the members of the association carried on in the United States that made Vienna the hospitable home of between 300 and 400 American physicians every year. Things ran smoothly most of the time up to 1914, when the war broke out. During the war, Dr. J. Lange, a former president of the American Medical Association of Vienna, remained in Vienna and had the misfortune of breaking down physically as well as financially. The lecturers, in recognition of his services and probably also in expectation of Dr. Lange's sending back 150 American physicians to Vienna, as he promised, made up a purse with which to send him home to Chicago. They also defrayed the expenses of a Blue Book, which he had compiled without any authority

whatever from the association, and in which he printed exorbitant fees for the courses to be given by the various lecturers. This is the Blue Book of 1919. These preliminary remarks we find necessary for the full understanding of our present, unfortunate difficulties with the Vienna Faculty concerning fees charged for courses.

In the summer of 1921, about twelve American physicians came to Vienna to take courses, and first began to complain about the fees they were asked to pay. They were charged all the way from $1 to $10 for one hour. The discrimination that was going on against American physicians became unbearable, for it was a twofold discrimination. To understand this, you must know that two sorts of courses were being given at the clinics:

1. Courses read in German and accessible to physicians from any part of the world. For these courses, the lecturers charged the Austrian physicians about one fifth of what they charged physicians coming from the newly formed republics of dismembered Austria. Such physicians were called Neu-Ausländer ("new" foreigners). Physicians, however, who came from such countries as France, Switzerland, Holland and England, were called Alt-Ausländer ("old time" foreigners), and they were charged ten times as much as the Austrian physicians who happened to take the same course. Our men, as long as they were not asked to pay more than the so-called "old" foreigners, never refused to pay ten times as much as the Austrian doctors. But they did refuse to pay more than the "old" foreigners (Swiss, Dutch, Italian, French). They could not understand why they should be considered better off financially than the Swiss or Dutch, for instance, because the franc and Dutch gulden increased in value in the same ratio as the dollar.

2. The other possibility open for American physicians to take courses was for them to club together; but, since there were often only a few Americans present, such courses would seldom consist of more than from two to four members. When the teachers were engaged, the Americans were charged $3, $4, $5 or even $12 an hour, regardless of whether the course was given in German or in English. This means that the teacher received for his working hour, if he happened to work for American physicians, from $3 to $12, which in Austrian crowns in August, 1921, amounted to between 3,000 and 12,000 crowns. The same teacher, teaching the very same subject, would sell his hour, according to the printed official program for postgraduate work issued by the Vienna Medical Faculty, for 2,500 crowns to any other foreigner, and 250 crowns, at the most, to an Austrian. It was therefore evident that, no matter whether the American physicians took courses jointly with physicians of other nations or had them arranged for themselves only, they were unjustly discriminated against.

Under such conditions it was but natural that the former American Medical Association was reorganized, and a president elected, who, owing to his Vienna origin, was thought to be capable of adjusting the matter. The president had a committee work with him, and, after August 28, many joint meetings were held with the representatives of the teaching body of the university. In these meetings, the unjustified and unfair attitude displayed toward the American physicians was thoroughly discussed. The committee brought detailed charges of conspicuous discrimination against American physicians. November 19, the American physicians offered a maximum fee of $3 for a teacher's hour, proving absolutely that $3 was from four to ten times more than any other foreigner was asked to pay for the same course by the same teacher. The committee also proved, in a detailed memorandum submitted to the teaching body, Nov. 19, 1921, that $3 an hour in Vienna was a great deal more than $10 paid to the best teacher in postgraduate work in New York. It was proved that the Viennese teacher could buy more for $3 in Vienna than the American teacher could for $10 in New York. It was further shown that, if the terms as proposed by the American Medical Association of Vienna were accepted by the medical teaching staff, many more American physicians would be induced to come to Vienna for postgraduate work, and would thereby reestablish the highly satisfactory prewar organization.

After prolonged debate and negotiations the terms were acceptable to all departments with the exception of eye, ear and skin (Clinics Meller, Neumann, Dimmer, Finger, Riehl). Without the cooperation of these clinics, however, a satisfactory organization would be impossible, for 75 per cent. of the American physicians are directly concerned with these departments.

Since our many attempts to reconcile the relationship between the docents and the American Medical Association of Vienna have been unsuccessful in procuring a definite agreement, we feel it our duty to let medical men in the United States know what sort of discrimination is taking place against American physicians.

We have requested the United States legation in Vienna to intercede and endeavor to change this lamentable state of affairs, but we have little hope of any success in this matter.

We ask The Journal to print this statement to correct the impression conveyed in the letter written by Dr. G. H. Kress of Los Angeles, which appeared in its Correspondence Column, Dec. 31, 1921. Dr. Kress on leaving Vienna was in full knowledge of the condition described above—in fact, he was the author of the memorandum presented to the teaching body of the University of Vienna, Nov. 19, 1921, enumerating all the facts given above—but we surmise that Dr. Kress on leaving Vienna had hoped that the teaching body of the University of Vienna would surely not turn a deaf ear to the just complaints of the American physicians.

A few illustrations of discrimination may be given:

In the official program of the Viennese Medical Faculty for postgraduate courses to be given October, November and December, 1921:

Docent Elias announces a course for metabolic disorders; fee, 500 crowns an hour of his time (if taken by Austrians); the same course he offered to the A. M. A. for $5 an hour, or, according to the exchange value of the dollar at that time, 40,000 crowns an hour.

Docent Stein announces a course for skin diseases and cosmetics; fee, 400 crowns an hour of his time (if taken by Austrians); the same course he offered the A. M. A. for $5 an hour—40,000 crowns an hour from Americans.

Docent Denk announces "Selected Chapters from Special Surgery" for 250 crowns an hour of his time (if taken by Austrians); from the A. M. A. he asks $5 an hour of his time, 40,000 crowns.

In January and February, 1922, when the dollar went up to between 9,000 and 10,000 crowns in exchange:

Docent Hirsch asked in his course "Anatomy and Pathology of Nose and Sinuses" from old foreigners 6,000 crowns for one hour of his teaching time; from Americans, $4, or between 36,000 and 40,000 crowns.

Professor Kyrle, in a skin course given in February to two Swiss, one Egyptian and three Americans, asked 30,000 crowns from the Swiss and Egyptian, and 60,000 crowns from the Americans — and they paid it!

P. S. Graven, M.D., Vienna,
W. G. Sahr, M.D., Chicago,
F. F. Schmidt, M.D., Columbus, Ohio,
John Pennington, M.D., Atlantic City, N. J.,
T. L. Blanchard, M.D., San Jose, Calif.
Executive Committee, American Medical Association of Vienna.

"AMERICAN MEDICAL JURISPRUDENCE AND THE EXPERT WITNESS"

To the Editor:—The editorial on "American Medical Jurisprudence and the Expert Witness" (The Journal, April 15) brings to the attention of the profession a matter which has long been a source of worry and perplexity to those interested in the relations of medicine to the administration of the law. Your suggestion that "determined efforts should be made by

organization of those who are concerned directly, and in other ways, to promote the development of American medical jurisprudence" should be put into force with the least possible delay.

It cannot escape any one who reads the daily papers, even if he has no other contact with court proceedings, that there is a definite tendency at present on the part of public opinion to discredit medical expert testimony. Without going into the reasons for this, it is certain that the legal profession is not to be made responsible for all the difficulty. The medical profession has a distinct responsibility, which it has not met adequately. One thing seems imperative, and that is the establishment of standards in medical jurisprudence comparable to the standards that have been set up in medical education and hospitals, and in pharmacology.

It is hardly necessary to point out that medical jurisprudence is not a matter merely of the coroner's physician or of the pathologic expert, but includes a great many other branches of medicine, more especially that of neuropsychiatry.

I offer the suggestion that this subject be proposed for special discussion at the forthcoming session of the American Medical Association at St. Louis, and, further, respectfully suggest that the officers of the American Medical Association consider at their forthcoming meeting the advisability of creating a council on medical jurisprudence similar to the councils on other subjects, whose main task shall be to work out and establish standards in this subject which can serve as guides not only for physicians but for the legal profession as well.

HERMAN M. ADLER, M.D., Chicago.
State Criminologist, Illinois; Professor of Criminology, University of Illinois Medical School.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

PRICES OF DRUGS IN 1914 AND NOW—USE OF PITUITARY EXTRACT DURING LABOR

To the Editor:—1. Kindly quote in your columns the prices on the market in 1914 and today of the enclosed list of drugs. 2. What do the best obstetricians say regarding the use of pituitary extract during labor? A friend of mine gives it in every case, and for the last six years has never had a serious mishap. I do not agree with him, but I want to find the latest views, the better to bolster my attack and defense. Please use only my initials if replied to in THE JOURNAL. C. F.

ANSWER.—1. The prices of the drugs in the list referred to, the price being for a pound unless otherwise stated, were:

	1914	1922
Sodium salicylate	$0.39	$0.60
Aspirin (acetylsalicylic acid)	6.50	1.13
Tincture of aconite	1.20	3.00
Antipyrin	3.75	2.85
Tincture of belladona	1.00 pint	2.30 pint
Extract of cascara sagrada	0.40 ounce	0.60 ounce
Tincture of digitalis	1.00 pint	3.00 pint
Fluidextract of ergot	6.00 pint	8.00 pint
Syrup of ferrous iodid	0.80 pint	1.85 pint
Tincture of nux vomica	1.20 pint	2.60 pint
Quinin alkaloid	0.36 ounce	1.25 ounce
Aromatic syrup of rhubarb	5.00 gallon	7.20 gallon

2. Extracts of pituitary should not be injected during the first stage of labor because, if the os uteri is not fully opened, the energetic contractions may cause rupture of the uterus. Full discussions of the use of this drug in labor have frequently appeared in the literature. Following is a list of references to articles in American periodicals during 1921:

Ryder, G. H.: Administration of Pituitrin at Beginning of Third Stage of Labor, with Report of One Hundred Cases, *Am. J. Obst. & Gynec.* **2**: 61 (July) 1921.
Rucker, M. P., and Haskell, C. C.: The Dangers of Pituitary Extract: Some Clinical and Experimental Observations, J. A. M. A. **76**: 1390 (May 21) 1921.
Cron, R. S.: Indications and Contraindications for Use of Pituitrin in Obstetrics, *J. Michigan M. Soc.* **20**: 340 (Sept.) 1921.
Heffernan, R. J.: Pituitrin in Third Stage of Labor, *Boston M. & S. J.* **185**: 443 (Oct. 13) 1921.
Evans, A. J.: Use and Abuse of Pituitrin in Obstetric Practice, *Southwest. Med.* **5**: 1 (April) 1921.
Mitchell, P. S.: Use of Pituitary Extract in Obstetrics, *J. Kansas M. Soc.* **21**: 349 (Nov.) 1921.
Barrow, G. B.: Use of Pituitrin in Obstetrics, *Virginia M. Month.* **47**: 609 (March) 1921.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARKANSAS: Little Rock, May 9. Sec., Reg. Bd., Dr. J. W. Walker, Fayetteville. Sec., Eclec. Bd., Dr. C. E. Laws, 803½ Garrison Ave., Fort Smith. Sec., Homeo. Bd., Dr. Geo. W. Love, Rogers.

GEORGIA: Atlanta, June 7-9; Augusta, May 31-June 2. Sec., Dr. C. T. Nolan, Marietta.

IOWA: Iowa City, June 1-3. Sec., Dr. Rodney P. Fagen, Capitol Bldg., Des Moines.

MASSACHUSETTS: Boston, May 9-11. Sec., Dr. Samuel H. Calderwood, 144 State House, Boston.

NEBRASKA: Lincoln, June 6-8. Sec., Mr. H. H. Antles, Lincoln.

NEVADA: Carson City, May 1. Sec., Dr. Simeon L. Lee, Carson City.

NEW YORK: Albany, Buffalo, New York and Syracuse, May 22-25. Asst., Professional Examination, Mr. Herbert J. Hamilton, State Education Bldg., Albany.

WYOMING: Cheyenne, June 5-7. Sec., Dr. J. D. Shingle, Cheyenne.

Washington November Meeting

Mr. William Melville, secretary, Washington Department of Licenses, reports that at the meeting held Nov. 18, 1921, 41 candidates were licensed by reciprocity. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Colorado		(1906)	Idaho
Bennett College of Eclectic Med. and Surg.		(1907)	Illinois, N. Dakota
Chicago College of Medicine and Surgery		(1915)	Illinois
College of Physicians and Surgeons, Chicago		(1905)	Illinois
Hahnemann Medical College and Hosp. of Chicago		(1913)	Illinois
Harvey Medical College		(1905)	Illinois
Loyola University		(1918)	Illinois
Northwestern Univ.		(1904) (1908), (1918), (1921)	Illinois
Northwestern University Woman's Medical School		(1897)	N. Dakota
Rush Medical College		(1895) Illinois, (1921)	Illinois, Kansas
Central College of Phys. and Surg., Indianapolis		(1904)	Indiana
Indiana University School of Medicine		(1909)	S. Dakota
College of Physicians and Surgeons, Keokuk		(1889)	Iowa
Drake University		(1912)	Iowa
Keokuk Medical College, College of Physicians and Surgeons		(1899) Illinois, (1900) Wisconsin, (1901)	Iowa
State University of Iowa College of Medicine		(1901)	Iowa
College of Physicians and Surgeons, Baltimore		(1897)	Montana
Tufts College Medical School		(1901)	Montana
University of Michigan Medical School		(1895)	California
University of Michigan Homeopathic Med. School		(1913)	Michigan
Minneapolis College of Physicians and Surgeons		(1901), (1903) Minnesota, (1906)	N. Dakota
St. Louis University School of Medicine		(1910)	Missouri
University Medical College of Kansas City		(1896) (1907), (1917)	Kansas Missouri
Washington University		(1910)	Illinois
Hahnemann Medical College of Philadelphia		(1904)	Minnesota
Jefferson Medical College		(1900) Pennsylvania, (1908)	Idaho
University of Pennsylvania		(1920)	Penna.
Vanderbilt University		(1917)	Tennessee

North Dakota January Examination

Dr. G. M. Williamson, secretary, North Dakota State Board of Medical Examiners, reports the oral, written and practical examination held at Grand Forks, Jan. 3-6, 1922. The examination covered 13 subjects and included 100 questions. An average of 75 per cent. was required to pass. Seven candidates were examined, all of whom passed. Five candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Kentucky School of Medicine		(1906)	75
University of Pennsylvania		(1917)	75

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Illinois		(1920)	Illinois
Kentucky School of Medicine		(1901	Indiana
University of Minnesota		(1917), (1919)	Minnesota
University of Nebraska		(1902)	Minnesota

Book Notices

DISEASES OF THE DIGESTIVE ORGANS, with Special Reference to Their Diagnosis and Treatment. By Charles D. Aaron, Sc.D., M.D., F.A.C.P., Professor of Gastroenterology and Dietetics in the Detroit College of Medicine and Surgery. Third edition. Cloth. Price, $10. Pp. 904, with 225 illustrations. Philadelphia: Lea & Febiger, 1921.

There is no field in which a concise and practical textbook would be more welcome than in gastro-enterology. In this book, however, too much space is devoted to anatomy, physiology and the fundamentals, which can be obtained in detail in any textbook. Why burden the reader with a host of tests and a description of intricate details, and then inform him that this or that test is of doubtful value? A proper balance is a long looked for desideratum. It would appear that, instead of allowing two pages for symptoms and diagnosis of carcinoma of the stomach, and three pages to the miostagmin reaction and the technic of the Abderhalden test, a better division would have been to allow more space to the clinical considerations. The result of roentgen-ray and laboratory examination of all the gastro-intestinal conditions is given in an early chapter of the book. This requires readers to refer to these chapters for the necessary data in their respective subjects. Several statements might be challenged; for example: the value of the Credé method of expelling the gastric contents into the duodenum as a therapeutic measure: the value of the Cammidge test in diagnosis of carcinoma of the pancreas, pain and tenderness on pressure in the vicinity of the twelfth dorsal and first and second lumbar vertebrae being significant of pancreatic disease; and, finally, the apparent ease with which the author says the diagnosis of pancreatic disease can be made. He fails to lay stress on the obtaining of a careful clinical history in the diagnosis of chronic colitis, and would seem to diagnose everything by the character of the stools. Chronic cholecystitis and the symptoms of stones in the gallbladder, aside from gallstone colic, are given scant consideration. Differential diagnosis might be given more attention. Many of the newer therapeutic measures are mentioned. The reproductions of roentgenograms are very good. There are many diet lists and prescriptions from the author's own experience and from other sources mentioned throughout the book. The underlying difficulty, however, is the failure to give and emphasize sufficiently the important outstanding features of the condition under consideration.

A MANUAL OF PRACTICAL ANATOMY. A Guide to Dissection of the Human Body. By Thomas Walmsley, Professor of Anatomy, Queen's University, Belfast. In three parts. Part II—The Thorax and Abdomen. Cloth. Price, $3.25. Pp. 233, with 82 illustrations. New York: Longmans, Green & Co., 1921.

This work is divided into three parts, published in three thin, and therefore handy, volumes of approximately 200 pages each. As a dissecting guide, it has the advantage of not being so detailed or so expensively illustrated as other books of the same character. The illustrations are simple line drawings and diagrams, but clearly executed and easily understood by the student. The arrangement of the text is, on the whole, admirable. The new terminology is more or less intermingled with the old, and used only in the Anglicized form. The book should serve as a helpful guide to the beginner.

CLINICAL DIAGNOSIS. A Text-Book of Clinical Microscopy and Clinical Chemistry for Medical Students, Laboratory Workers, and Practitioners of Medicine. By Charles Phillips Emerson, A.B., M.D., Professor of Medicine, Indiana University School of Medicine. Fifth edition. Cloth. Price, $7.50. Pp. 726, with 156 illustrations. Philadelphia: J. B. Lippincott Company, 1921.

Four editions of this book were printed between 1906 and 1913. This edition, which appears after an interval of ten years, is practically a new work. It has involved a complete rewriting of the book and the addition of special sections on serology, bacteriology and chemistry of the blood and spinal fluid. This significant suggestion appears in the preface: "The author feels that the present separation of laboratory and ward is an evil which cannot be too strongly condemned. No matter how successful a man may be, he has no right to entrust his laboratory work entirely to others. . . . The one who takes the history of the patient and makes the physical examination is the one who can correctly interpret the laboratory findings." Dr. Emerson also emphasizes the possibility of considering the laboratory findings without relation to the patient. "The medical student should understand that the sum total of all laboratory activities is not and never can be internal medicine, and that he as artist must try to see in each specimen something of the patient himself and interpret it in terms, not of chemistry, physics or biology, but of the suffering person." Unlike other encyclopedic works on laboratory diagnosis, this book does not include all of the tests, tried and untried, which have been described in medical literature, but only those with which the author has had actual experience and which have known worth. The book is therefore well adapted for use by the general practitioner who does not care to attempt experimentation in his laboratory technic. There is an extensive and satisfactory index.

LEHRBUCH DER UROLOGIE MIT EINSCHLUSS DER MÄNNLICHEN SEXUALERKRANKUNGEN. Von Dr. Leopold Casper, Universitätsprofessor in Berlin. Third edition. Paper. Price, 200 marks. Pp. 608, with 225 illustrations. Berlin: Urban & Schwarzenberg, 1921.

The present edition of this textbook emphasizes more than the prior editions the characteristics of a forceful medical personality, with all the advantages and a few of the shortcomings that accrue when personal tenor permeates publication. In contradistinction to the ponderousness of many medical textbooks, the clear presentation of the subject will hold the interest of the reader without any weary reaction. The emphasis of the true clinical teacher is brought home by epigrammatic sentences, marshaling facts, such as: "It is not what the kidney is secreting, it is what it is not eliminating, that determines the efficiency of renal function." Could any statement more precisely outline the problems of renal functional diagnosis? As the author is more a teacher than a surgeon, the operative side of urology is treated in a rather cursory manner. The chapter on nephritis and nephrosis is rewritten in this edition according to the views developed by the recent work of internists and pathologists. It is to be regretted that in the paragraphs on functional renal diagnostics only the color tests, the phlorizin test and cryoscopy are discussed, while all the modern tests are neglected. Phlorizin and cryoscopy have been practically discarded by American urologists. That the retention of urea has nothing to do with the qualification of renal function is another statement that will encounter opposition in this country. The closing chapter, dealing with all the forms of impotence, may be ranked as an excellent contribution to this difficult subject.

I HAVE REASON TO BELIEVE. By Stephen Paget. Cloth. Price, $2. Pp. 148. New York: The Macmillan Company, 1921.

In this book Dr. Paget has collected a number of essays which, characteristically, are prefaced with the dedication: "These essays are not worth dedicating to anybody." They reveal, however, his usual brilliant style and quiet, understanding wit. The essay entitled "The Writing of a Life" should be compulsory reading for all biographers. The concluding essays on "Our Medical Correspondent" and "An Eminent Victorian" are of particular medical interest. In the former, the press comes in for unusual chastisement because of its manufacturing of medical news. Mr. Paget feels—as THE JOURNAL has preached for many years—that every first-class newspaper would do well to provide itself with a medical man, who should not only conduct a special department, but also advise on the publication of medical items in other departments and thus prevent the publishing of the fakery and fallacy characterizing much of the medical material usually printed. The "eminent Victorian" whose passing Mr. Paget bemoans is no other than our old friend Mrs. Grundy. Christian science, psychanalysis and other cults are made the objects of several rapier-like thrusts, and it is pleasing to see these toy-balloons deflated and to hear the hiss of the escaping gas.

Medicolegal

Information from Observation Held Privileged

(Fritcher v. Kelley et ux. (Idaho), 201 Pac. R. 1037)

The Supreme Court of Idaho, in affirming a judgment in favor of the plaintiff, says that he, as administrator of the estate of one Allen, deceased, had asked to have a deed which had been executed by Allen to the defendants set aside, on the ground that Allen did not at the time have mental capacity to execute the conveyance. On their appeal, the defendants complained of the refusal of the trial court to permit a physician to give testimony as to his opinion of the mental condition of the grantor shortly before the execution of the deed. They offered to prove that the physician had been called to treat the grantor for a cold, that the information which he acquired concerning the grantor's mental condition was based on his observation, and was not necessary to enable him to prescribe for the patient. The trial court sustained an objection on the ground that the information was based on confidential relations and communications. The Idaho statute provides that "a physician or surgeon cannot, without the consent of his patient, be examined in a civil action as to any information acquired in attending the patient, which was necessary to enable him to prescribe or act for the patient." Past decisions of the Supreme Court of Idaho show an inclination to interpret liberally the words "information acquired in attending the patient, which was necessary to enable him to prescribe or act for the patient." In *Jones* v. *Caldwell*, 23 Idaho 467, 130 Pac. 995, a ruling of the trial court was upheld, sustaining an objection to a question asked a surgeon as to the condition of a certain part of the human body which had been removed; he having assisted in the operation but having made his examination of the part in question some time after it was removed. Strictly speaking, the physician's information based on the observation of this part of the body was not necessary to enable him to prescribe or act for the patient. And the supreme court concludes in the present case that the opinion of the physician as to the mental capacity of Mr. Allen, based on his observation of him at a time when he was treating him, was properly rejected by the trial court.

Court Finds Authority to Order Blood Test

(Hayt v. Brewster, Gordon & Co., Inc. (N. Y.), 191 N. Y. Supp. 176)

The Supreme Court of New York, Appellate Division, Fourth Department, reverses an order for the physical examination of the plaintiff in this personal injury case, because the order did not require a blood test. The court says that the defendant asked permission to draw a few drops of the plaintiff's blood, so that the examining physician, by an analysis of it, might be aided in qualifying himself to give an opinion as an expert at the trial. A physician, in an affidavit submitted by the defendant on the motion, which is granted, stated that it would be necessary to make a blood test to determine accurately the plaintiff's condition. It was not claimed by the plaintiff in the affidavits submitted on the motion that he was in such a condition of health that such treatment would be injurious to him. Neither was it claimed in such affidavits that there would generally be any danger involved in such act. It was argued, however, that there was so much danger involved in drawing a few drops of blood by a skilled physician that it should not be required, and that Section 873 of the New York Code of Civil Procedure, which provides for a physical examination, before trial, of the plaintiff in an action for personal injuries, was not broad enough to justify such an order. But this court thinks otherwise.

The legislature, in enacting said statute, and thereby changing the common law rule, must have intended that it should accomplish some useful purpose, promote the ends of justice, and be of some practical assistance in the discovery of the truth. If it is necessary to make a blood test to determine from what the plaintiff is suffering, a physical examination which omits the making of such blood test will be of no use whatever in establishing the truth of the fact at issue. Such a construction of the section, instead of promoting the administration of justice and the discovery of the truth, will have exactly the opposite effect. The common law rule in the state was abolished by the enactment in question for the very purpose of making that lawful which was theretofore unlawful, to permit a physical examination of a plaintiff where none was permitted before. Its purpose was to afford protection to defendants, to enable them to discover the truth in regard to injuries claimed to have received by plaintiffs, and thereby to promote justice. To give the section a narrow and strict interpretation, which unduly restricts its purpose, would be contrary to the uniform practice under the section, and contrary to the spirit of the statute. We all know from experience in the trial of cases that it is the common practice of physicians, in making examinations under an order, to examine the plaintiff before trial, to insert instruments into the plaintiff's body, to put pressure on the body with the hands, and to make various tests, all of which are as offensive to a person, and as much an infringement on his rights, as it would be to draw a few drops of blood. No one has ever raised the question that such examinations were not proper or justified.

It was urged, however, that there have been cases in which infection has been caused by a needle puncture, such as is required to draw blood sufficient for a blood test. That is undoubtedly true, and in those cases the reason for the infection has been said to be the fact that the needle was not properly sterilized, or that the skin had not been properly cleansed. But Section 873 provides that "such examination shall be had and made under such restrictions and directions as to the court or judge shall seem proper." The court or judge granting the order is given full power to direct the manner in which the examination shall be made, and, on the request of the plaintiff, may throw around the examination all known safeguards. The sample of blood should be taken by a physician selected by the plaintiff, if he so desires. It does not seem to this court that under such circumstances it can be seriously urged that there is such danger that court or judge is without jurisdiction to grant an order under Section 873 for a blood test.

Recognized Possibility of Birth of Children

(Burrell v. Jean et al. (Ind.), 132 N. E. R. 704)

The Appellate Court of Indiana, Division No. 2, affirms a judgment in favor of the defendants in this action brought by the plaintiff to quiet title to certain real estate in which she had been given a life estate by a will, which provided that after her death the property should go to her children, or to certain other persons, as the case might be. She was about 70 years of age when the case was tried in February, 1920; and, after remarking that there was no evidence that she had not had children born to her since the death of a named son in 1889, and that they were not living, the court says that the law recognizes the possibility of birth of issue in all adult women, and the single fact that terminates the possibility of issue is death. The possibility of the birth of further children to the plaintiff was to be determined only on her death.

Expert Witnesses Entitled to Statutory Fee Only

(Ulaski v. Morris & Co. (Neb.), 184 N. W. R. 946)

The Supreme Court of Nebraska holds that it was error in this case, under the workmen's compensation act, for the trial court to allow the plaintiff $50 for expert witness fees charged as costs. The court says that there is no provision in the law for the payment of expert witness fees. The expert witnesses are, therefore, allowed the usual and lawful witness fee, and no more. Wherefore, it is ordered that the court disallow the expert witness fees in the amount of $50, and that the expert witness recover only the usual lawful witness fees. One testifying as an expert on a subject requiring special knowledge and skill, in the absence of a special contract, is entitled only to the statutory fee.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, St. Louis, May 22-26. Dr. Alex. R. Craig, 535 N. Dearborn St., Chicago, Secretary.

American Association for the Study of the Feebleminded, St. Louis, May 18-20. Dr. R. W. Baker, Laconia, N. H., Secretary.
American Association of Anesthetists, St. Louis, May 22-24. Dr. F. H. McMechan, Avon Lake, Ohio, Secretary.
American Association of Genito-Urinary Surgeons, Washington, D. C., May 2-3. Dr. R. F. O'Neil, 374 Marlborough St., Boston, Secretary.
American Association of Industrial Physicians and Surgeons, St. Louis, May 22-23. Dr. William Alfred Sawyer, 343 State St., Rochester, N. Y., Secretary.
American Ass'n of Pathologists and Bacteriologists, Washington, D. C., May 2-4. Dr. H. T. Karsner, Lakeside Hospital, Cleveland, Secretary.
American Association of Physicians, Washington, D. C., May 2-4. Dr. Thomas McCrae, 1627 Spruce St., Philadelphia, Secretary.
American Bronchoscopic Society, Washington, D. C., May 3. Dr. Samuel Iglauer, 701 Race St., Cincinnati, Secretary.
American Climatological and Clinical Association, Washington, D. C., May 2-4. Dr. Arthur K. Stone, Framingham Center, Mass., Secretary.
American Dermatological Association, Washington, D. C., May 2-4. Dr. Udo J. Wile, University of Michigan, Ann Arbor, Secretary.
American Gastro-Enterological Association, Washington, D. C., May 1-2. Dr. Arthur F. Chace, 525 Park Ave., New York, Secretary.
American Gynecological Society, Washington, D. C., May 1-3. Dr. A. H. Curtis 104 S. Michigan Ave., Chicago, Secretary.
American Laryngological Association, Washington, D. C., May 1-3. Dr. George M. Coates, 1811 Spruce St., Philadelphia, Secretary.
American Laryng., Rhinol. and Otological Society, Washington, D. C., May 4-6. Dr. W. H. Haskin, 40 E. 41st St., New York, Secretary.
American Neurological Association, Washington, May 2-3. Dr. Frederick Tilney, 22 E. 63d St., New York, Secretary.
American Ophthalmological Society, Washington, D. C., May 1-3. Dr. T. B. Holloway, 1819 Chestnut St., Philadelphia, Secretary.
American Orthopedic Association, Washington, D. C., May 2-4. Dr. De Forrest P. Willard, 1630 Spruce St., Philadelphia, Secretary.
American Otological Society, Washington, D. C., May 2-3. Dr. Thomas J. Harris, 104 E. 40th St., New York, Secretary.
American Pediatric Society, Washington, D. C., May 1-3. Dr. H. C. Carpenter, 1805 Spruce St., Philadelphia, Secretary.
American Proctologic Society, St. Louis, May 22. Dr. Ralph W. Jackson, 245 Cherry Street, Fall River, Mass., Secretary.
American Psychopathological Association, Washington, D. C., May 1. Dr. Sanger Brown, 2d, 118 E. 80th St., New York, Secretary.
American Society for Clinical Investigation, Washington, D. C., May 1. Dr. James H. Means, 15 Chestnut Street, Boston, Secretary.
American Society of Tropical Med., Washington, D. C., May 2. Dr. B. H. Ranson, Bureau of Animal Industry, Washington, D. C., Secretary.
American Surgical Association, Washington, D. C., May 2-4. Dr. John H. Gibbon, 1608 Spruce St., Philadelphia. Secretary.
American Therapeutic Society, Washington, D. C., May 1-2. Dr. Lewis H. Taylor, The Cecil, Washington, D. C., Secretary.
American Urological Association, Atlantic City, April 26-28. Dr. H. G. Hamer, 723 Hume-Mansur Bldg., Indianapolis, Secretary.
Arkansas Medical Society, Little Rock, May 17-19. Dr. William R. Bathurst, 810 Boyle Building, Little Rock, Secretary.
Association for the Study of Internal Secretions, St. Louis, May 22. Dr. F. M. Pottenger, Title Insurance Bldg., Los Angeles, Secretary.
California Medical Society of the State of, Yosemite, May 15-18. Dr. W. E. Musgrave, Butler Bldg., San Francisco, Secretary.
Congress of Amer. Phys. & Surgs. of North America, Washington, D. C., May 2-3. Dr. W. R. Steiner, 646 Asylum Ave., Hartford, Conn., Sec.
Connecticut State Medical Society, Bridgeport, May 17-18. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.
Georgia, Medical Association of, Columbus, May 3-5. Dr. Allen H. Bunce, Healy Building, Atlanta, Secretary.
Illinois State Medical Society, Chicago, May 16-18. Dr. W. H. Gilmore, Mount Vernon, Secretary.
International Congress of Ophthalmology, Washington, D. C., April 25-May 3. Dr. Luther C. Peter, 1529 Spruce St., Philadelphia, Sec'y.
Iowa State Medical Society, Des Moines, May 10-12. Dr. T. B. Throckmorton, Bankers' Trust Bldg., Des Moines, Secretary.
Kansas Medical Society, Topeka, May 3-4. Dr. J. F. Hassig, 800 Minnesota Ave., Kansas City, Secretary.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 25-27. J. A. Chatard, 1211 Cathedral St., Baltimore, Secretary.
Medical Library Association, St. Louis, May 22-23. Dr. John Ruhräh, 1211 Cathedral St., Baltimore, Secretary.
Mississippi State Medical Association, Hazlehurst, May 9-10. Dr. T. M. Dye, Clarksdale, Secretary.
Missouri State Medical Association, Jefferson City, May 2-4. Dr. E. J. Goodwin, 3529 Pine Street, St. Louis, Secretary.
National Tuberculosis Association, Washington, D. C., May 4-6. Dr. George M. Kober, 370 Seventh Ave., New York, Secretary.
Nebraska State Medical Association, Omaha, April 24-27. Dr. R. B. Adams, 1013 Terminal Building, Lincoln, Secretary.
New Hampshire Medical Society, Concord, May 17-18. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.
New Mexico Medical Society, Gallup, April 28-29. Dr. J. W. Elder, Santa Fe Hospital, Albuquerque, Acting Secretary.
North Carolina, Medical Society of the State of, Winston-Salem, April 25-27. Dr. L. B. McBrayer, Sanatorium, Secretary.
Ohio State Medical Association, Cincinnati, May 2-4. Mr. Don K. Martin, 131 East State St., Columbus, Executive Secretary.
Oklahoma State Medical Association, Oklahoma City, May 9-11. Dr. C. A. Thompson, 508 Barnes Bldg., Muskogee, Secretary.
Radiological Society of North America, St. Louis, May 19-20. Dr. M. J. Sandborn, Appleton, Wis., Secretary.
South Dakota State Medical Association, Huron, May 16-18. Dr. R. D. Alway, 423 S. Lincoln St., Aberdeen, Secretary.
Texas, State Medical Association of, El Paso, May 9-11. Dr. H. Taylor, Texas State Bank Bldg., Fort Worth, Secretary.
West Virginia State Medical Association, Huntington, May 17-19. Dr. Robert A. Ashworth, Moundsville, Secretary.

TENNESSEE STATE MEDICAL ASSOCIATION

Eighty-Ninth Annual Meeting, Held at Memphis, April 11-13, 1922

The President, DR. WILLIAM BRITT BURNS, Memphis, in the Chair

The Present Status of Pyloroplasty

DR. W. M. MCCABE, Nashville: Pyloroplasty con be used in all cases of ulcer of the stomach in which gastro-enterostomy is indicated, except in cases of cancer of the pylorus, or when it is impossible to mobilize the pylorus. It is preferable to gastro-enterostomy because it only slightly disturbs physiologic relation, and because it allows direct treatment of the ulcer. It is preferable to gastro-enterostomy in ulcer of the duodenum so situated that it can be removed in the performance of the operation. Gastro-enterostomy is to be preferred in ulcer which cannot be removed. I include here ulcers which are so situated that removal is possible, but not in the performance of pyloroplasty. It is the operation of choice in gastrojejunal ulcer following gastro-enterostomy in which gastro-enterostomy opening is detached. It can be used satisfactorily in pyloric stenosis, but gastro-enterostomy has given its best results in these cases.

Traumatic Brain Lesions

DR. E. DUNBAR NEWELL, Chattanooga: We have treated during the last five years fifty-four cases of serious brain injuries. The cases in which operation was not performed were usually those of linear fractures or no fractures, with intracranial pressure not high, and the patients either not unconscious or only moderately so. There were no focal symptoms of localized hemorrhage and no depressed fragments. There were forty-one patients operated on, with fourteen deaths, a mortality of 34 per cent. Eleven patients were not operated on, with three deaths. Two patients were relieved by spinal puncture and relieving intracranial pressure by drawing off cerebrospinal fluid. Including all severe cases of brain injuries, those in which operation was performed, and those in which operation was not performed, the mortality was 30 per cent. The mortality in serious basal fractures, with high intracranial pressure, in which operation is not performed during the stage of shock and is done before marked medullary compression occurs, can be reduced from the usual 50 per cent. to 80 per cent. mortality to a 20 per cent. mortality or lower. In depressed fracture of the vault an operation is always indicated unless the patient is in shock. When the patient is in shock, one never should operate. The patient will die if any operation is done to repair a fractured skull, to control hemorrhage from the brain or to relieve intracranial pressure, while the patient is still in a state of shock. A stereoscopic roentgenogram should be taken of every head injury in which the blow has been sufficient to cause a fracture of the skull or to render the patient unconscious. Fracture of the skull per se does not indicate that the patient has been seriously injured. With the symptom of lesion to the brain or its membranes present, the absence of a fracture does not alter in the least the treatment or prognosis. Because the roentgen ray does not reveal a fracture of the base, it does not mean that one does not exist. Basal fractures must not be considered hopeless cases, as 75 per cent. can be saved if they are watched carefully and intelligently treated.

The Great Value of Necropsies

DR. B. T. TERRY, Nashville: Necropsy does one of three things: 1. It confirms the clinical diagnosis, but adds features which were not diagnosticated with certainty clinically. 2. In addition to confirming the clinical diagnosis, the necropsy reveals very important lesions not even suspected clinically. 3. It makes the diagnosis when, during life, exact diagnosis was impossible.

Our Duty and Responsibility in the Face of the Abortion Evil

DR. J. C. AYRES, Memphis: The statutes relative to criminal abortion should be amended so that it will be possible to convict. When the evidence is sufficient, we should aid the authorities in every way possible. Even when the evidence is not sufficient to convict in a court of law, we should,

on general information, expel from organized medicine every man who is known to be an abortionist. When therapeutic abortion is necessary, the burden of the proof of its necessity should rest on the physician performing it. If done in a hospital, some member of the staff, either resident or visiting, should be in consultation in the case. The rule in regard to consultation should be strictly adhered to, not only when there is a question as to the necessity, but also when there is any doubt as to the diagnosis.

The Diagnosis of Extra-Uterine Pregnancy

DR. J. A. CRISLER, Memphis: After reviewing all the important authorities on the subject, I agree with Schumann in the conclusions that: 1. Previous general health and family history are of no diagnostic value. 2. Absolute sterility is not definitely associated with the occurrence of ectopic pregnancy. 3. Relative sterility, especially the one-child type, on the contrary, is a significant point, and should be regarded as moderately affirmative. 4. The passage of a considerable interval of time between the last intra-uterine pregnancy and the present suspected ectopic one is unimportant in diagnosis, and may be disregarded. 5. A history of preexisting pelvis disease is of great importance when obtainable, but the absence of such history should not be an influence against a positive diagnosis of ectopic fecundation. 6. Previous abdominal operations indubitably render the patient more liable to aberrant embedding of the fecund ovum.

Conditions most likely to be confounded with extra-uterine pregnancy are intra-uterine pregnancy with threatened abortion, hemorrhage from the tube or ovary not in relation to pregnancy, acute salpingitis, acute appendicitis, ovarian cyst with twisted pedicle, rupture of a gastric or duodenal ulcer, and ureteral or renal colic.

Acute Mechanical Intestinal Obstruction

DR. ROBERT CALDWELL, Nashville: The poison that is the cause of death in acute mechanical obstruction is a toxic proteose. This toxic proteose is found in the intestine above the point of obstruction. It is formed by the protein catabolism of the body tissues and excreted into the intestine. This excretory function of the intestine is probably a compensatory one. Treatment consists in supplying the tissues with large quantities of fluid, and relief of the obstruction, emptying the intestine above the point of obstruction in all cases except those in which there is a wide margin of safety as determined by the nonprotein nitrogen of the blood.

Treatment of Acute Intestinal Obstruction

DR. L. I. SHEDDAN, Knoxville: An operation should be done in acute intestinal obstruction as early as possible. Plenty of fluids should be given before and after operation, by proctoclysis or by hypodermoclysis or by both. Stomach lavage should be resorted to as often as necessary to keep the stomach free from toxic matter. When in doubt as to the integrity of a strangulation loop of intestine, one should always resect. If the intestine is distended and paralyzed, a well placed enterostomy should be done.

Cancer of the Breast

DR. CLAUDE P. FOX, SR., Greenville: After having tried different methods, I have been convinced of the superior merits of the technic as described by Rodman. Some of the advantages which I believe this method possesses over any other operation are that it more completely removes the tissues susceptible to cancer involvement. The skin can be evenly approximated without excessive tension. It does away with the necessity of skin grafting, and gives a more resilient covering for the wound; hence it lessens the scar tissue that so restricts the movement of the arm. It hastens the period of convalescence. It requires much less postoperative attention, and is far less liable to wound infection, thus reducing the liability to local recurrence. I have had no local recurrence in any case when I have used this technic, and all my patients have had practically unrestricted movement of the arm. All operations should begin at the axilla from above downward, and from without inward toward the breast, for the reason that by this method the lymphatics are blocked before the carcinomatous tissues are in any way handled; the vessels are tied at their origin, less blood is lost, and a cleaner dissection can be done.

Early Diagnosis of Syphilis

DR. MARCUS HAASE, Memphis: The typical chancre appearing on the genitalia three or four weeks after exposure is an easy lesion to diagnose. However, not more than 40 per cent. of the primary lesions answer to the common description of a typical chancre, namely, a painless, indurated, eroded papule or nodule. Most frequently there is an associated infection, or the lesion has been traumatized often by a cauterant, and the resulting picture is entirely different from the classic hunterian sore. Most important of mixed infections is that of the Ducrey bacillus and spirochetes. Pure uncomplicated chancroids are rare, since 70 to 80 per cent. of all chancroids have an associated syphilitic infection. If the physician is a very careful man, he will take blood for a Wassermann test. Perhaps he will take two, a week apart, to be absolutely sure. Here, again, the true nature of the lesion may go on undiagnosed. Craig has given the Wassermann result in a number of cases examined from one to five weeks after the appearance of the chancre. At the end of one week, 27.6 per cent. were positive; two weeks, 50.8 per cent.; three weeks, 64.2 per cent.; four weeks, 73.1 per cent.; five weeks, 79.4 per cent. Although the Wassermann is the best single procedure in the diagnosis of syphilis, it is obvious from these figures that it cannot be depended on in early cases. The best possible proof of the syphilitic nature of a lesion is to find *Spirochaeta pallida*. The searching for these organisms in the dark field or by the India ink method is the most important procedure in making a diagnosis of primary syphilis. We may fail occasionally to find them, but in very early cases when the Wassermann is least liable to be positive, the organisms are most liable to be present. All lesions of the genitalia should be considered syphilitic until proved otherwise.

Abdominal Pregnancy at Term

DR. H. L. FANCHER, Chattanooga: When a pregnancy becomes abdominal, the fetus usually dies as a result of immediate hemorrhage. However, it may have sufficient placental attachment to go on to maturity, and then die as in the case I report. A peculiar feature is that the fetus will die at maturity, and a so-called spurious labor comes on in which there will be uterine hemorrhage with expulsion of decidual membranes. After the death of the fetus, its fluids, with that of the amnion, begin to be absorbed. If the patient is not operated on, one of three things is going to happen. First, all the fluids and soft parts will be absorbed, leaving the bones encysted in the free abdominal cavity, or later they will work their way into hollow viscera. Second, as the fluids are absorbed, calcium salts are deposited, forming a lithopedion. Third, infection takes place early and the mother dies of sepsis. It is the opinion of all recent writers that the placenta and membranes should be removed at the initial operation, if possible. There will be cases with adhesions so extensive and so vascular that the only recourse will be to leave all or a part of the placenta in situ and pack to control hemorrhage. In the case I report, it probably was of the tubo-ovarian type, as no part of the right tube and ovary could be isolated at the time of operation.

The Treatment of Fibroid Tumors

DR. CHARLES N. COWDEN, Nashville: From the experience of men who endorse the use of radium in the treatment of fibroids, in comparison with the definite results that follow hysterectomy, what are the conclusions to be drawn in respect to their individual merit? Should they be considered as adjuncts one to another, or are they rivals for supremacy in the treatment of benign growths? Is there a certain type best suited to one or to the other method? If so, what are the definite indications or contraindications to their use? Has the investigator in the use of radium become so expert that he can say with definiteness that here is a case that should be treated with radium, and this tumor, of such size and bulk, should have so much dosage at different times, and you get certain results as little morbidity as you may expect

from a hysterectomy. Until this can be done, I think the place for radium in this field is very limited, if not questionable. The possibilities of radium for real harm have not been sufficiently exploited in the literature, because men shrink from reporting their bad results. It is the duty of men who are using radium to spread the propaganda of caution, and insist that only men of great experience in handling it should use it. I am convinced that radium and the roentgen ray have only a limited place in the treatment of fibroid tumors of the uterus.

Gastroptosis

DRS. SEALE HARRIS and J. P. CHAPMAN, Birmingham, Ala.: In our roentgen-ray studies on gastroptosis, the most important findings have been the marked degree of mobility of the stomach, which is affected by the position of the patient, by the weight of the stomach contents, and by the tension or relaxation of the abdominal muscles. We have endeavored to determine the normal position of the stomach in a study of 500 cases, and have come to the conclusion that in the supine position the textbook teachings are correct; but in the upright position there is a wide normal variation, depending on the anatomic makeup of various types of individuals. We have also come to the conclusions that, so far as gastric digestion is concerned, it matters very little whether a stomach is in the high position, or in the brim of the pelvis, so long as its muscular tonus is good and the intra-abdominal pressure is normal.

Gastroptosis is a condition, not a disease. It is so frequently found that it can hardly be called an anomaly. It should be termed a physical characteristic.

In a series of 500 patients studied during the last eighteen months, roentgen-ray examinations in the standing position showed in 278 (55.6 per cent.) that the lower border of the stomach was more than 2 inches (5 cm.) below the umbilicus. These were all adult white patients, most of them native Alabamians, although a few were from Mississippi, Tennessee, Georgia and Florida. Gastroptosis is less frequent in males than in females. In our series of 500 patients, 271 were males and 229 females; of the 278 who had gastroptosis, 121 were males and 157 females. In Smithies' series of 300 males, only thirty-six had gastroptosis, while in 300 females, 165 had gastroptosis. The visceroptotic individual should be taught the essentials of diet and nutrition, and that if he would be comfortable he must eat a full diet, with a liberal quantity of butter, cream and other fats; plenty of the starchy and green vegetables and the cereals, and 1 or 2 quarts (liters) of milk a day. Rest in bed for a period of from four to six weeks is necessary in many cases. The operation of fixation of the stomach for gastroptosis is mentioned only to be condemned as irrational, meddlesome surgery. The stomach is a very mobile organ, and no part of it should ever be fixed, as is the effect in all the various types of gastroptosis.

The Diet of the Child Aged from Nine to Twenty-Four Months

DR. OLIVER W. HILL, Knoxville: The food for an infant must have the three known vitamins: fat soluble A, water soluble B, and antiscorbutic vitamins. It must be present in sufficient amounts. We must have sufficient amounts of fats, carbohydrates and proteins, mineral matter and water to meet the child's caloric requirements; also that digestibility and palatability be assured. When shall we start giving the child food other than the mother's milk? We have found that it is better to start small amounts of cereal decoctions; zwieback, toast, fruits, greens and extracts from vegetables in suitable and palatable forms at about 9 months, gradually increasing until we have the child on a semisolid diet. Each child is a law unto itself and requires individual study and consideration. When the child is constipated, fruit juice may be resorted to very early, at 3 months or younger. It is a good plan to start with 1 teaspoonful (1 fluidram) of cereal each day, changing this formula frequently, gradually accustoming the child to spoon feeding. When one has established a tolerance for the cereals, then one may begin vegetables, gradually enlarging the diet, exercising care not to overfeed. One can start this procedure much earlier if circumstances demand, that is, if the child is not gaining satisfactorily at 6 months, or is constipated, always keeping in mind the surroundings, the season of the year, etc. I dislike to make any changes in the diet of a child during the hot months if it can be avoided.

Standardization of Infant Feeding

DR. OWEN H. WILSON, Nashville: The simple sensible standards for feeding normal babies are these: Feed the best cow's milk available. Always boil milk at least three minutes, especially (1) in starting a formula; (2) in hot weather, and (3) in every other case you can conveniently do so. Always give orange juice to prevent scurvy. Correct constipation with magnesium or liquid petrolatum. Feed one or two ounces more than months of age up to 8 ounces as a maximum, every three hours, or four hours, if you can. Omit feedings after 10 p. m. as early as possible—certainly, by the fourth month; better still, never begin them. Lime water is necessary only in some vomiting babies. For the first three months give half milk and half water with two leveled off tablespoonfuls of sucrose, added to the twenty-four-hour quantity. From 3 to 6 months, two-thirds milk, one-third water, with 3 level tablespoonfuls of sucrose. From 6 to 8 months, three-fourths milk, one-fourth water, with 3 level tablespoonfuls of sucrose. After 8 months, whole milk may be given, but three fourths is preferable in hot weather.

Diagnosis and Management of Pyloric Stenosis in Infancy

DR. EUGENE ROSAMOND, Memphis: By the history alone we are usually able to make a tentative diagnosis of pyloric stenosis. The normal baby, a few weeks of progress, the sudden vomiting, the continuance of this symptom until the child is weaned, and then the gamut of the proprietary foods —still with vomiting, emaciation, hunger and constipation. As to the age incidence, Wall has said, "The second half of the first month of life, there is no disease in the category of human ills which possesses an age period as exact and as suggestive as pyloric stenosis." As to gastric peristalsis, these waves of peristalsis may be due to causes other than hypertrophy causing a pyloric block, but they are for all practical purposes pathognomonic of this condition. Absence of tumor does not mean anything; its presence means hypertrophy. Too much importance is attached to gastric retention as a symptom. The roentgen ray gives valuable information. The duodenal catheter is a most complicated way to reach a conclusion. Two other conditions that may be confounded with stenosis of the pylorus are the hypertonic infant and pylorospasm. Thirteen years ago I reported to the Arkansas State Medical Association five cases of pyloric stenosis that were treated by means of somach washings and fractional feeding. Two of these patients died. This experience, with the best dietetic treatment then recommended, convinced me that all patients should be operated on at the earliest possible moment. This I recommended in the next eight cases coming under my care, and of this number six patients recovered, one died after operation, and one died fifteen minutes before operation.

Reduction in Typhoid Rate.—Steadily decreasing mortality from typhoid fever is reported in the mortality figures issued by the Bureau of Census. A reduction in the registration states of the United States from 13.3 per cent. per hundred thousand population in 1916 to 7 per cent. per hundred thousand population in 1920 comprise the official statistics. Massachusetts and Wisconsin had the lowest rates in 1920, recording a percentage of 2.5, while the highest appears in North Carolina, the percentage being 22.4. Of the eleven states showing rates by color, the lowest rate for the white population was 3.6 per cent. and the lowest for the colored was 4.6 per cent. both for New York state, while the highest rate for the white population was 19.1 per cent. in Kentucky and that for the colored was 30.2 per cent. for the same state. Of the thirty-three states reported upon, only nine show an increase in typhoid fever mortality in 1920 in comparison with 1919. They are Colorado, Connecticut, Kansas, Maine, Michigan, New Hampshire, New Jersey, Vermont and Washington.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

April, 1922, **23**, No. 4

*Indications for Removal of Spleen in Infants and Children. F. H. Bartlett, New York.—p. 289.
*Bacteriology of Normal Infant's Urine. H. F. Helmholz and F. Millikin, Rochester, Minn.—p. 309.
*Value of Cutaneous Sensitization Tests Employed in Eczema and Papular Urticaria of Childhood. D. M. Sidlick and F. C. Knowles, Philadelphia.—p. 316.
Studies of Infant Feeding, XVII. Bacterio-Chemical Study of Acid Stools Excreted by Breast-Fed and Bottle-Fed Infants. A. W. Bosworth, H. K. Wilder, M. E. Blanchard, E. W. Brown and M. F. McCann, Boston.—p. 323.

Splenectomy in Children.—A summary of splenectomies done by various operators on children under 14 years of age is presented by Bartlett. It includes five cases of von Jaksch's anemia; twenty cases of splenic anemia (Banti's disease); one case of tuberculosis of the spleen; one case of septic splenomegaly; fifteen cases of hemolytic jaundice (type not indicated); four cases of Gaucher's disease and five unclassified cases. Three personal cases are reported, two of Banti's disease and one of Gaucher's diseases. Good results are reported and splenectomy is urged in these cases.

Bacteriology of Normal Infants' Urine.—Helmholz and Millikin found the urine of seventy infants sterile on culture in from one third to one half of the experiments. *Streptococcus lacticus* was only exceptionally found in the urine. It is stated that the chances of contamination are so great that the presence of organisms in the urine does not prove, without further control, that they have come from the kidney.

Cutaneous Sensitization Tests in Eczema and Urticaria.—Twenty-three infants and children with eczema were tested by Sidlick and Knowles. Eight, or 35 per cent., gave negative reactions. Fifteen had one or more positive reactions. Six of the fifteen were clinically cured; three showed marked improvement; six were improved. Twelve children with papular urticaria were tested. Three were negative as far as reactions were concerned. Nine, or 75 per cent., reacted to one or more proteins. Three of the nine were clinically cured; four were markedly improved. Of the two remaining children, one reacted positively to strawberry, orange and banana; the other to potatoes and tomatoes. Both failed to improve on a restricted diet. The authors state that by correcting the gastro-intestinal abnormalities, an increase in the number of clinical cures is certain of attainment.

American Journal of Hygiene, Baltimore

March, 1922, **2**, No. 2

Studies on Experimental Rickets. XVII. Effects of Diets Deficient in Calcium and in Fat Soluble A in Modifying Histologic Structure of Bones. E. V. McCollum, N. Simmons and M. Kinney, P. G. Shipley and E. A. Park, Baltimore.—p. 97.
*Investigations on Control of Hookworm Disease. VI. Effect of Hookworm Control Measures on Soil Pollution and Infestation in a Sugar Estate. W. W. Cort and G. C. Payne, Baltimore.—p. 107.
*Id. VII. Epidemiologic Study of Hookworm Disease in a Cacao Estate. W. W. Cort and G. C. Payne, Baltimore.—p. 149.
*Id. VIII. Migration of Hookworm Larvae in Soils. D. L. Augustine, Baltimore.—p. 172.
*Id. IX. Position of Infective Hookworm Larvae in Soil. D. L. Augustine, Baltimore.—p. 172.
*Id. X. Length of Life of Infective Hookworm Larvae in Soils. D. L. Augustine, Baltimore.—p. 177.
Human Intestinal Ameba, Iodameba Williamsi, and Its Cysts (Iodin Cysts). W. H. Taliferro and E. R. Becker, Baltimore.—p. 188.
Relation of Blood Platelets to In Vivo Agglutination of Bacteria and Their Disappearance from Blood Stream. C. G. Bull and C. M. McKee, Baltimore.—p. 208.

Control of Hookworm Disease.—An intensive epidemiologic study was made by Cort and Payne of an area with a high incidence of hookworm disease on a sugar estate in Trinidad, British West Indies, to determine the exact sources of human infestation and to learn the effect on human infestation, soil pollution and soil infestation of a control campaign. Of the 142 people, both East Indians and negroes, examined from the area chosen for study, 117 were found to be infested with hookworms. A series of three treatments greatly decreased both the number of positives and the total mass infestation of these people. Soil pollution was widespread and very gross in this area, being especially concentrated at certain easily accessible places in the cane field, to the west of the barracks, where the people lived. Surveys of the pollution in the cane field showed a great reduction after the building of an adequate number of latrines and the carrying on of an educational campaign. Examinations for infective hookworm larvae of soil samples indicate that hard packed clay-loam soil on which there is no vegetation, even if moisture is present, does not offer conditions favorable for the development of hookworm larvae. The localized character of soil infestation, especially in the cane field, showed that there was little migration of infective hookworm larvae from the places of development, although evidence is presented that they may be carried considerable distances by water. The analysis of the habits of the people, in relation to the distribution of soil infestation, suggested that most of the heavy infestation of the people of his area was due to the habit which many of them had of visiting certain places in the cane field for the purpose of defecation. After the reduction of soil pollution in the cane field and the treatment of the people of the area, series of samples taken at intervals showed a rapid dying out of the infective hookworm larvae from this area, so that in about six weeks soil infestation was practically eliminated.

Hookworm Disease on Cacao Estate.—Examination of the people living in three houses on a cacao estate showed a heavy infestation with hookworms. Soil pollution in this area was almost entirely restricted to definite spots—"natural latrines" in the cacoa grove near the barracks. The examination of soil samples showed very little soil infestation anywhere in the area, except at the "natural latrines" in the cacao, and the conclusion can be drawn that almost all the human infestation must have come from the habit of polluting the soil of the cacao. Even in the "natural latrines" the findings were somewhat irregular, indicating the conditions were not always favorable for the development of hookworm larvae, and that they did not migrate from the place of development. Examinations of the soil of the intensely polluted spots in the cacao, six weeks after three routine treatments had been given to the people, showed a very marked reduction of soil infestation, indicating that in this situation the life of the infective hookworm larvae is short.

Migration of Hookworm Larvae in Soils.—Experiments carried on by Augustine in Trinidad, British West Indies, from May to September, 1922, showed that infective hookworm larvae placed on moist soils do not migrate in periods of from fifteen hours to forty-two days. Experiments show that hookworm larvae may be carried out from centers of soil infestation by surface water, and that they can establish themselves in the new locations when the water recedes. Hookworm larvae were not found to migrate to favorable situations when their original environments become unfavorable. Soil scraped from the shoes of men passing through infested area was found to contain hookworm larvae. It is possible that paths leading to such areas, as well as the immediate surroundings of dwellings, become centers of infestation by the dropping of such soil. During the time the larvae remained in the soil there occurred a reduction in their numbers, which increased with the number of days the experiment lasted.

Position of Infective Hookworm Larvae in Soil.—Infective hookworm larvae under optimum conditions of moisture and temperature were found to remain on and within the upper surface of the soil. They creep up pieces of wood, decaying vegetation and other objects only as far as the film of moisture extends. Hookworm larvae were not found within the drops of water collected in the axils of the leaves of green plants nor upon the leaves themselves. At centers of soil infestation, where the surface is covered with leaves or twigs, the infective hookworm larvae were found extended from the leaves or twigs when moist, but in the soil beneath when dry.

Length of Life of Infective Hookworm Larvae in Soil.—Laboratory experiments carried on in Trinidad, British West Indies, from May to September, 1921, show that a rapid reduction in the number of hookworm larvae occurs in soils of various types, and that the extent of their life is limited to about six weeks. Environmental conditions, such a tropical temperatures which tend to increase the activity of the mature hookworm larvae, will shorten their lives by the more rapid using up of the stored food material.

American Journal of Obstetrics and Gynecology, St. Louis

March, 1922, **3**, No. 3

*Histogenesis of Ovarian Tumors. S. H. Geist, New York.—p. 231.
*Action of Emetin Hydrochlorid on Uterus. P. Martin, Boston.—p. 241.
Carcinoma of Uterus. C. L. Bonifield, Cincinnati.—p. 250.
Some Phases in Evolution of Diagnosis and Treatment of Cancer of Cervix. R. E. Skeel, Los Angeles.—p. 252.
Valuable Methods Used to Extend Operability in Advanced Cancer of Cervix. G. V. Brown, Detroit.—p. 263.
*Control of Mortality of Abdominal Operations for Cancer. G. W. Crile, Cleveland.—p. 272.
New Trend in Gynecological Therapy. G. Gellhorn, St. Louis.—p. 275.
Hypertrophic Ulcerative Form of Chronic Vulvitis (Elephantiasis, Esthiomene, Syphiloma). F. J. Taussig, St. Louis.—p. 281.
*Atresia and Stricture of Vagina. J. E. King, Buffalo, N. Y.—p. 290.
Nitrous Oxid and Oxygen Continuous Analgesia and Anesthesia with Rebreathing in Obstetrics. Technic of Administration and Summary of Results.—p. 296.
Indications and Contraindications for Use of Pituitary Extract in Obstetrics. R. S. Cron, Ann Arbor, Mich.—p. 300.
Case of B. Welchii Blood Stream Infection of Uterine Origin. H. B. Matthews, Brooklyn.—p. 307.

Histogenesis of Ovarian Tumors.—In the ovaries of a woman, 52 years of age, were found on the one side a typical adenocarcinoma and on the other a process involving the greater portion of a somewhat enlarged ovary that also resembled a new growth. It was composed of masses of cells varying in number, either isolated or in large branching strands. The cells in these solid masses resembled those of the granulosa layer of the follicle. In these masses Geist found cysts of varying sizes lined by cells of a cuboidal, columnar or the high cylindrical type as seen in the pseudomucinous type of ovarian cyst. Often in these cysts were found oval granular bodies which on superficial examination might be taken for degenerated ova but which were undoubtedly degenerated tumor cells or secretion masses. The origin of this process is the point of interest. It seems to be independent of the tumor of the other side, first as it bears no histologic resemblance to it, and second as it has none of the distinguishing criteria of a malignant tumor. The stroma resembles that of the unchanged ovary and is a predominant part of the process. The stroma and cells always maintain a definite relationship and at no point is there a proliferative or invasive tendency or an inflammatory infiltration. Mitosis was not found.

Action of Emetin on Uterus.—The most important finding in Martin's work was that the action of emetin on the uterus differed in vitro and in vivo. In vitro emetin lessens the activity of the pregnant and the nonpregnant uterus (dogs, rats, rabbits). It causes a decrease in tone and amplitude although increasing the rate of contractions. In vivo emetin causes an increase in the tone of the pregnant as well as the nonpregnant uterus (dogs and rabbits).

Control of Mortality of Abdominal Operations.—Crile reports the methods and management of operations on that group of patients who constitute a large portion of the group of handicapped cases whose successful treatment taxes to the utmost the resources of the surgeon, namely, abdominal operations for cancer. The two outstanding principles described were developed as the result of experience in the war. These two principles are: (1) protection of the patient in advance of the emergency; (2) control of infection (*a*) by the separation of contaminated surfaces from each other and (*b*) by prevent of the pooling of wound secretion.

Atresia of Vagina.—Three cases of acquired vaginal atresia as a result of infantile vaginitis are reported by King. In one case, a young woman, aged 19, the vagina was closed an inch and a half from the hymen by the firm union of the vaginal walls. The cause of this atresia was an infantile gonorrhea. The second patient was 26 years old. At operation extensive vaginal adhesions were found, obliterating the vaginal tube almost completely. No history could be obtained here of any discharge during childhood. The third case occurred in a young woman aged 23. The vagina was closed an inch and a half beyond the introitus. At operation, after dividing the lower union, a small vaginal cavity was encountered, and above this the vaginal walls were found closely adherent about the entire cervix and united in front of it. This patient had had a profuse discharge that persisted for many months.

American Journal of Ophthalmology, Chicago

March, 1922, **5**, No. 3

Prechiasmal Intracranial Tumors of Optic Nerves. W. E. Dandy, Baltimore.—p. 169.
Target Practice with Hering's Double Eye. M. Landolt, Paris, France.—p. 189.
Recurrent Hemorrhages into Retina and Vitreous of Young Persons. W. C. Finnoff, Denver, Colo.—p. 195.
Congenital Anterior Capsular Cataract. L. D. Brose, Evansville, Ind.—p. 202.
Apparent Pituitary Tumor with Restoration of Vision. W. A. Cassidy and S. R. Gifford, Omaha, Neb.—p. 206.
Recurring Myxosarcoma of Orbit. J. H. Buckley, Fort Smith, Ark.—p. 207.
Chart for Testing Vision of Children and Adults—Literate and Illiterate. G. A. Sulzer, Columbus, Ohio.—p. 208.
One Advantage of Single Vision. E. J. Brown, Minneapolis.—p. 208.
Transplantation of Entire Vertical Recti for Abducens Palsy. R. O'Connor, San Francisco.—p. 210.

American Journal of Roentgenology, New York

February, 1922, **9**, No. 2

*High Voltage Roentgen-Ray Work. W. D. Coolidge and W. K. Kearsley, Jr., Schenectady, N. Y.—p. 77.
*Ultraviolet Ray in Treatment of Roentgen-Ray Telangiectasis. H. H. Hazen, Washington, D. C.—p. 101.
*Behavior of Stomach in Ulcer and Cancer of Duodenum Below Bulb. A. W. Crane, Kalamazoo, Mich.—p. 102.
Action of Radium and Roentgen-Rays on Blood and Blood Forming Organs. I. Levin, New York.—p. 112.
Treatment of Glandular Metastases of Carcinoma. R. H. Boggs, Pittsburgh.—p. 117.

High Voltage Roentgen Ray.—Coolidge and Kearsley describe a roentgen-ray tube which has served for experimental work up to 300,000 volts (max.); an experimental interrupterless machine which has operated satisfactorily, even in humid summer weather, at voltages up to 300,000, and a constant potential continuous current machine, for voltages up to 200,000. As to dosage: they state that for the medical application, it looks much safer to judge of roentgen-ray intensity and quality, from sphere gap and milliamperemeter measurements of the electrical energy put into the tube rather than from direct measurements made with an ionization chamber. At 200,000 volts (max.), with as much as 0.2 mm. of copper filter, different "high voltage" tubes differ but little in output, the average deviation from the mean in a series of twenty tubes being only 1.25 per cent. At 127,000 volts (max.), with as much as 3 mm. of aluminum filter, different "Universal" type tubes differ but little in output, the average deviation from the mean in a series of seventeen tubes being about 3 per cent. Where no filter is used, tubes differ markedly in output, owing to differences in bulb thickness. For the therapeutic application, the effect of tungsten deposit on the bulb can apparently be neglected. Curves are given showing the distribution of roentgen-ray intensity in different directions around the focal spot, at voltages of 127,000 and 200,000. The distribution curves for a badly pitted target are also given.

Ultraviolet Ray in Treatment of Roentgen-Ray Telangiectases.—Hazen has used the Kromayer lamp in eight cases. Three were comparatively small telangiectases due to radium placques, two were large areas covering the whole of the thyroid and thymus areas, and the remainer were mild scattered lesions resulting from one erythema dose in acne. With an active lamp, using a quartz compression lens, Hazen found it necessary to give from fifteen to twenty minutes to each area. In no instance have more than two treatments been necessary to obliterate the vessels in the areas so treated. The results are a complete disappearance of the dilated blood vessels, but naturally the atrophy of the skin remains

unchanged and usually the result in apearance is that of a small, slightly whitened scar.

Behavior of Stomach in Ulcer and Cancer of Duodenum Below Bulb.—A case of cancer of the duodenum and one of ulcer of the duodenum below the bulb are cited by Crane. In both cases the chief complaints were epigastric pain and vomiting. In the first case (cancer) the symptoms were recent—a matter of weeks; in the second case (ulcer) the symptoms were chronic, extending over years. In the first case there was epigastric pain without tenderness, in the second the seat of the pigastric pain was exquisitely tender and the recti rigid. In the cancer case there was gastric stasis due to pylorospasm and duodenal obstruction. In the ulcer case the essential points in the roentgen-ray examination were the active gastric peristalsis, the patulous pylorus, the rapid expulsion of stomach contents, the dilatation of the first two thirds of the duodenum with a filling of the ampulla of Vater, the constriction of the duodenum so as to form a partial obstruction and the coincidence of this constriction with the abdominal pain on pressure. Unless these cases are exceptional, it is probable that very persistent gastric retention is the rule in duodenal carcinoma below the bulb and that rapid expulsion of stomach contents is the rule in duodenal ulcer below the bulb. Duodenal ulcer would thus run true to type whether in the bulb or below, with, of course, the usual gastric residue in cases of sufficient obstruction or pylorospasm. But the behavior of the stomach in cancer of the duodenum seems in marked contrast to its behavior in cancer of the stomach where rapid emptying is the rule with a gaping pylorus and at the same time feeble peristalsis, except in the presence of a sufficient organic obstruction. In view of these facts, prolonged gastric retention without signs of gastric, pyloric or bulbar involvement should arouse suspicion of cancer of the duodenum. Also the rapid expulsion of stomach contents without achylia and without bulbar changes should arouse suspicion of ulcer of the duodenum below the bulb.

Annals of Surgery, Philadelphia

March, 1922, **75**, No. 3

*Resection of Lung for Suppurative Infections; Report of Thirty-One Cases. H. Lilienthal, New York.—p. 257.
*Pathology of Lung Suppuration. P. W. Aschner, New York.—p. 321.
Aberrant Adenoid Cystic Epitheliomas of Salivary Gland Type. F. M. Johnson, New York.—p. 331.
*Diaphragmatic Hernia. D. L. Borden, Washington, D. C.—p. 337.
Hepaticoduodenostomy for Injury of Bile Ducts During Cholecystectomy. J. D. McEachern, Winnipeg, Can.—p. 344.
*Acute Perforated Ulcer of Stomach or Duodenum. G. D. Stewart and W. H. Barber, New York.—p. 349.
*Blind End Circular Suture of Intestine; Closed Ends Abutted and Double Diaphragm Punctured with Knife Introduced per Rectum. W. S. Halsted, Baltimore.—p. 356.
*Potential Malignancy in Exstrophy of Bladder. A. J. Scholl, Rochester, Minn.—p. 365.
Intermittent Hydronephrosis with Gastroenterologic Symptoms. A. McGlannan, Baltimore.—p. 372.

Resection of Lung for Suppurative Infections.—Lilienthal's experience has shown that chronic pulmonary suppurations, wholly or partially of the bronchiectatic type, are rarely curable without the extirpation of the pathologic focus. The commonest cause of the disease is infection due to the aspiration of infected material during tonsillectomy. The surgical removal of a single pulmonary lobe for chronic pus infection has a mortality of about 42 per cent. The danger is much greater when more than one lobe is infected or in the presence of other complications. Palliative operations may be followed by improvement, rarely by apparent cures. Radical operation should not be undertaken short of several months after the onset unless the disease is obviously spreading. The proper type of operation should be determined only on full exposure by thoracotomy. Abstracts of the histories of thirty-one patients are given.

Pathology of Lung Suppurations.—Lung suppurations are devided by Aschner into: (1) bronchiectasis, a general disease of the bronchi in one or more lobes; (2) bronchiectatic abscess, a localized suppurative process in the course of a bronchus, and thus far observed only in posttonsillectomy cases; (3) suppurative pneumonitis, a diffuse purulent process; (4) extrabronchial abscess, a localized purulent process.

Diaphragmatic Hernia Simulates Appendicitis.—Attacks of severe and sudden pain in the lower abdomen accompanied with nausea and vomiting were the chief symptoms in Borden's case for six years when a diagnosis of acute appendicitis was made and an operation performed. A large amount of peritoneal fluid was present. Exploration demonstrated a ptosis of both the liver and the stomach. An area 3 inches in diameter on the anterior surface of the liver, was whitish and studded with what appeared to be tubercular nodules. This, with the presence of an abnormally large amount of peritoneal fluid, led to a diagnosis of tuberculous peritonitis. All efforts to find the appendix, cecum, ascending or transverse colon failed. The patient made an uneventful convalescence. Soon afterward a roentgen-ray examination was made to determine the position of the appendix. It was then discovered that most of the large intestine and a large part of the small intestine passer up through the left dome of the diaphragm, filling the left chest and displacing the heart to the right. The left lung was almost completely compressed up under the clavicle. At the second operation a hernia opening in the left dome of the diaphragm, 3 inches in diameter, was observed. The intestines were dragged down and out of the chest. The pillars of the hernial opening were then sutured together with interrupted catgut. Complete recovery ensued.

Surgical Treatment of Perforated Gastric Ulcer.—Twenty-four cases of acute perforated ulcers of the stomach and duodenum are reported by Stewart and Barber. The operative procedure in each instance was inversion and drainage with or without plication and omental grafting. Two patients died. In one case the rupture had taken place two days before operation, in the other three days.

New Method of Intestinal Suture.—The method of intestinal approximation described by Halsted is applicable to cases destined for excision of the large intestine in which a colostomy had previously been provided. The title of this paper is a summary of the steps of the operation. For further details, the original paper must be consulted.

Malignancy in Exstrophy of Bladder.—In nine cases of exstrophied bladder, in which material for histologic study was available, two were definitely malignant, and two showed atypical cellular formation varying markedly from the normal. In the reported cases of malignancy of exstrophied bladders, which are relatively frequent, the growths were adenocarcinomas. This glandular malignancy, Scholl states, is the type that would develop from irritation and hyperplasia of glandular structures.

Georgia Medical Association Journal, Atlanta

March, 1922, **11**, No. 3

Lymphatics in Cancer. J. L. Campbell, Atlanta.—p. 85.
Classification and Treatment of Hemorrhoids. M. C. Pruitt, Atlanta.—p. 88.
Treatment of Hemorrhoids. R. M. Harbin, Rome.—p. 91.
Aneurysm of Descending Arch of Aorta. W. C. Pumpelly, Macon.—p. 94.
Whither Are We Drifting as Profession? Some Facts Worthy Our Consideration. B. C. Keister, Americus.—p. 96.
Why Each Physician Should Be Member of His County Society. J. O. Elrod, Forsyth.—p. 101.
Termination of So-Called Neuroses. N. P. Walker, Milledgeville.—p. 103.
Need of Physician. E. C. Davis, Atlanta.—p. 106.
Hysterical Amblyopia. A. S. M. Coleman, Douglas.—p. 109.
Transplantation Flap Repair of Lower Eyelid, Following Removal of Epithelioma. B. H. Minchew, Waycross.—p. 110.

Journal of Bacteriology, Baltimore

March, 1922, **7**, No. 2

Gram Stain: Description of New Method. V. Burke, San Francisco.—p. 159.
Disinfection Studies: Effects of Temperature and Hydrogen Ion Concentration on Viability of Bacillus Coli and Bacillus Typhosus in Water. B. Cohen, Washington, D. C.—p. 183.
Micro-Organism Concerned in Oxidation of Sulphur in Soil. I. Introductory. S. A. Waksman.—p. 231.
Id. II. Thiobacillus Thio-oxidans, New Sulphur Oxidizing Organism Isolated from Soil. S. A. Waksman and J. S. Joffe.—p. 239.

Production of Pink Sauerkraut by Yeasts. E. B. Fred and W. H. Peterson, Madison, Wis.—p. 257.
Biology of Lactic Acid Bacteria. C. Gorini, Milan, Italy.—p. 271.
Method for Cultivation of Anaerobes. L. D. Bushnell.—p. 277.
Influence of Vacuum on Growth of Some Aerobic Spore Bearing Bacteria. L. D. Bushnell.—p. 283.
Substitution of Brom-Thymol Blue for Litmus in Routine Laboratory Work. H. R. Baker.—p. 301.
Use of Domestic Methylene Blue in Staining Milk by Breed Method. W. A. Wall and A. H. Robertson.—p. 307.

Journal of Laboratory and Clinical Medicine, St. Louis

March, 1922, **7**, No. 6

*Experimental Investigation of Pharmacologic Action of Quinidin. D. E. Jackson, A. Friedlander and J. V. Lawrence, Cincinnati.—p. 311.
*Beriberi. T. G. Ni, China.—p. 340.
Effects of Thyroid, Thyroxin and Other Iodin Compounds on Acetonitrile Tests. M. Miura, Tokyo, Japan.—p. 349.
*Adaptation of Folin and Hu Blood Sugar Method Applicable to Small Amounts of Blood. E. J. Baumann and R. L. Isaacson, New York.—p. 357.
*Sterilization of Surgical Instruments. E. S. Sanderson, New Haven, Conn.—p. 360.
Micromodification of Method of Benedict for Quantitative Determination of Reducing Sugar in Urine. M. Smith, Boston.—p. 364.

Pharmacodynamics of Quinidin.—A large number of experiments were made by Jackson and his associates in the endeavor to determine the action of quinidin on the heart. They felt that there was nothing unique in the action of quinidin on auricular fibrillation and that, perhaps, a large number of drugs which exercise a general depressant action on the cardiac muscle would, in all probability, act in a very similar manner. It appeared to be simply a question of selecting a substance of sufficiently low general toxicity, and one which would be eliminated from the blood but slowly in order that a prolonged, mild depression of the auricular tissue might be produced. The drug undoubtedly acts on both ventricles and auricles. It tends to counteract the development of fibrillation of the ventricle after such drugs as aconitin or digitoxin. One of the earliest actions on the normal heart consists of a slight dilatation of the ventricle as shown by the cardiometer. The checking of fibrillation of the ventricles in perfused hearts by the temporary addition of small quantities of potassium chlorid solution to the perfusion fluid indicates also that quinidin does not possess a unique action in this regard. The authors surmise that in due course it will be found that quinidin acts on the musculature of the peripheral vessels and perhaps, even on the skeletal muscles, in a manner quite similar to that in which it acts on the heart muscle. Such an action on the coronary vessels would probably be of importance in some, and perhaps in many cases. And the decrease in the power of epinephrin when injected intravenously, to raise the general blood after quinidin may indicate an action on the sympathetic innervation, although at present the possibility that this may be due to an action on the capillaries cannot be ruled out. Slight changes in the pulmonary blood pressure by the action on the pulmonary arterioles or capillaries might also be of importance in many cases. Too hasty formation of conclusions regarding the action of quinidin is deprecated.

Cause of Beriberi.—The various theories as to the causation of beriberi, such as disturbance of vitamin metabolism, infection theory, nitrogen starvation, phosphorus starvation, are reviewed by Ni. He favors the theory which regards deficiency in vitamin and in general nutrition as the most likely one.

Blood Sugar Test.—Baumann and Isaacson have developed a method of testing for blood sugar using Folin and Hu's method for an amount of blood that could be obtained by pricking the finger, and securing 0.4 c.c. of blood. The adaptation is said to be comparatively simple and rapid.

Sterilization of Surgical Instruments.—The results obtained by Sanderson may be thus summarized: (1) No growth was obtained when either glass rods or scalpels on which nonspore-forming organisms were present were burned off with methyl alcohol. (2) Glass rods and scalpels could not be sterilized by burning them off with methyl alcohol when spores of *B. anthracis, B. cereus, B. botulinus, B. tetani,* etc., were present. The burning off of glass rods and scalpels with a methyl alcohol-formaldehyd mixture (3:1) gave excellent results except in the case of the anaerobes when grease and oil were present. When absolute sterility is desired, the burning off of a surface with an inflammable fluid is not dependable.

Journal of Medical Research, Boston

January-March, 1922, **43**, No. 1

Studies of Uranium Poisoning. V. Influence of Light on Uranium Poisoning in Guinea-Pigs. H. T. Karsner, Tsun Chee Shen and S. A. Wahl, Cleveland.—p. 1.
*Nature of Action of Nonspecific Protein in Disease Processes. III. Nonspecific Proteins and Soluble Toxin (Diphtheria-Tetanus). D. M. Cowie and R. M. Greenthal, Ann Arbor, Mich.—p. 21.
*Experimental Study on Effects of Protein Injections on Infections. I. Kross, New York.—p. 29.
*Influence of Tuberculin on Production of Antibodies. H. L. Thompson, Chicago.—p. 37.
Experimental Testicular Tuberculosis in Rabbit, M. I. Smith, Washington, D. C.—p. 45.
*Studies on Paratyphoid—Enteritidis Group. VII. Enteric Infection ("Food Poisoning") Due to Tapioca Pudding Contaminated with B. Cholerae Suis (B. Suipestifer). C. Krumwiede, D. J. Provost and G. M. Cooper, New York.—p. 53.
Bacillus of Unna-Ducrey. O. Teague and O. Deibert, New York.—p. 61.

Nature of Action of Nonspecific Protein in Disease.—Cowie and Greenthal found that the protective action of normal horse serum precipitated by alcohol is much less than that of the untreated horse serum when injected into guinea-pigs which have received a fatal dose of diphtheria toxin. The globulin (alcohol treated) fraction of horse serum protein is more effective than the albumin (alcohol treated) fraction in protecting guinea-pigs injected with a fatal dose of diphtheria toxin. The nonalcohol treated globulin fraction of 1 c.c. normal horse serum will protect against several fatal doses of diphtheria toxin while the nonalcohol albumin fraction furnishes no protection whatsoever. No protective effect against diphtheria toxin was observed with the following proteins—egg white, milk, guinea-pig serum and rabbit serum. One cubic centimeter of normal horse serum when injected subcutaneously into a guinea-pig will protect against a fatal dose of tetanus toxin. The protective action of normal horse serum against soluble toxin (diphtheria) the authors believe is due to natural antitoxin in the serum and not to the effect of the nonspecific protein injected.

Effect of Protein Injections on Infections.—The conclusion reached by Kross is that the protein treatment has not increased the resistance of animals to mouse typhoid, to general peritoneal sepsis or to pneumonia, and has not enabled them to overcome infection any better than do the untreated ones. In fact, the treatment apparently has reduced the vitality of the animals, as is evidenced by their more rapid destruction. Furthermore, the danger of death from anaphylactic shock is such as to stamp this method of treatment as actually threatening great potential harm. A number of deaths have occurred shortly after intravenous injections of bacterial substances; in one case, for instance, death followed the intravenous administration of "rheumatism phylacogen." The utter lack of positive results in these series and the recognized clinical dangers of the procedure indicate the need for caution in assuming the therapeutic value of intravenous protein injection in the treatment of infections.

Influence of Tuberculin on Production of Antibodies.—Thompson reports on a series of experiments directed toward the determination of the effect of tuberculin on the formation of antibodies to foreign erythrocytes. The injection of tuberculin into rabbits, prior to the injection of sheep erythrocytes as antigen, markedly increased the production of specific hemolysin.

Infection by Bacillus Cholerae-Suis.—Krumwiede et al. relate the case of a family of five, three of whom became ill from eating tapioca pudding and one, a breast fed infant, also became ill. One member who did not eat the pudding escaped. Pork chops were purchased at the same time as the pudding and were handled by the mother, who prepared the meal. Examination showed that the tapioca pudding was infected with *B. cholerae-suis* from the pork products; that a limited amount of growth took place, so that each of those eating the pudding became ill; that the illness was due to an infection and not an intoxication, the infection giving rise to symptoms in one case, in from six to nine hours.

Journal of Mental and Nervous Diseases, New York

February, 1922, **55**, No. 2

*Occipital Lobe Embolism. A. H. Woods, Peking, China.—p. 81.
Loss of Three German Investigators: Alzheimer, Brodmann and Nissl. E. Kraepelin, Munich.—p. 91.

Occipital Lobe Embolism.—Woods reports two cases. In the first case an embolus lodged in the artery supplying the lower half of the area striata. In the second case the stoppage was in the main stem of the posterior cerebellar artery, the first shock disturbing both the medial and the convex surfaces of the occipital lobe and the postthalamic sensory tracts. The residual necrosis here was of the posterior half of two thirds of the visual area.

Michigan State Medical Society Journal, Grand Rapids

April, 1922, **21**, No. 4

*Use of Toxin-Antitoxin in Prevention of Diphtheria. W. Ross, Detroit.—p. 151.
Disease and Treatment of Maxillary Sinus. F. Smith, Grand Rapids.—p. 154.
Child Welfare. L. Jones, Flint.—p. 159.
Carcinoma of Large Bowel. C. D. Brooks, Detroit.—p. 162.
Pyloric Stenosis and Pylorospasm of Infancy with Especial Reference to Medical Treatment. D. J. Levy, Detroit.—p. 166.
Ethmoid Suppuration. D. A. Campbell, Detroit.—p. 170.
Future Public Health Interests and Activities. J. Sundwall, Ann Arbor.—p. 172.

Toxin-Antitoxin in Diphtheria.—Ross recommends that all physicians who have the care of babies and small children endeavor to immunize them during the period when they are most susceptible, beginning between the sixth and ninth months. Three or more injections of toxin-antitoxin may be given at intervals of from one week to one month, depending on circumstances obtaining in the family and in the vicinity with regard to diphtheria prevalence, without appreciable discomfort to the patient or objection on the part of intelligent parents. The Schick test, if desired, may be reserved until some later date and used to determine whether or not the immunization has been complete. Of the 370 individuals, who died from diphtheria in Detroit during 1920, 328, or 88.6 per cent., had not reached the age of 10; 58.6 per cent. were under 5, which is usually considered school age; 31.1 per cent. were between 1 and 3 and 7 per cent. were under 1 year. These facts show the disease to be preeminently one of early childhood. Both experience and the Schick test indicate that the period of greatest susceptibility is from the latter months of the first year to the third year, when at least 75 per cent. lack natural protection. The preschool age is the period when active immunization is most needed. Among the very young there has been an entire freedom from harmful or uncomfortable reactions of any sort to the administration of toxin-antitoxin.

Public Health Journal, Toronto

March, 1922, **13**, No. 3

Law and Morality. J. W. McFadden, Toronto.—p. 97.
Health Education of Children. L. E. Holt, New York.—p. 106.
Health in Industry and Its Relation to Community. J. G. Cunningham, Toronto.—p. 114.
Social Background. Unemployment Relief. F. N. Stapleford.—p. 125.

South Carolina Medical Association Journal, Greenville

March, 1922, **18**, No. 3

Cancer Problem in Southern States. F. L. Hoffman, Newark, N. J.—p. 51.
Relation of Foci of Infections to Infections of Kidney. M. Weinberg, Sumter, S. C.—p. 57.
Anesthesia Administered Expertly. S. O. Black, Spartanburg, S. C.—p. 59.
Therapeutic Use of Oxygen. W. P. Cornell, Columbia.—p. 60.
Prognostic Factors in Bronchial Asthma. G. R. Wilkinson, Greenville.—p. 61.
Nervous and Mental Diseases: Practical Psychology Versus "Isms." R. O. Whitten, Clinton.—p. 62.
Prevention of Diphtheria. L. Banov, Charleston.—p. 63.
Arteriosclerosis. H. H. Plowden, Charleston.—p. 64.
Ringworm Infection. J. R. Allison, Columbia.—p. 65.
Relation of Nasal Disease to Headache. W. C. Twitty, Rock Hill.—p. 66.
Hyperthyroidism. F. D. Rodgers, Columbia.—p. 67.
Antiseptics in Obstetrics. R. E. Seibels, Columbia.—p. 68.

Southern Medical Journal, Birmingham, Ala.

March, 1922, **15**, No. 3

Body Mechanics: Its Effect on Health of Children. F. B. Talbot, Boston.—p. 171.
Hepatic Extract (Soluble) as a Remedial Agent. A. L. Levin, New Orleans.—p. 175.
Possible Relation of Secretin to Cancer. E. C. Prentiss, El Paso, Tex.—p. 181.
Some Points in Physics and Technic of Roentgen Ray Work. A. L. Gray, Richmond, Va.—p. 185.
Infectious Diarrhea in Young Children. R. C. Spence, Dallas, Tex.—p. 189.
Midwifery and Medical Legislation. C. W. Garrison, Little Rock, Ark.—p. 194.
Rural Health Work: Its Organization and Prosecution. P. W. Covington, New Orleans.—p. 196.
*Solution of Endemic Goiter Problem. H. G. Sloan, Cleveland.—p. 202.
Relative Value of Operations on Gallbladder. W. A. Bryan, Nashville, Tenn.—p. 209.
*Undescended Testicle. M. E. Stout, Oklahoma City, Okla.—p. 213.
Roentgen-Ray Study of Lumbo-Sacral Spine. A. O'Reilly, St. Louis.—p. 217.
*Radium in Treatment of Uterine Cancer. C. O. Donaldson and G. E. Knappenberger, Kansas City, Mo.—p. 224.
Some Rhinologic Experiences in Ophthalmology. G. Sluder, St. Louis.—p. 230.
Cysts and Cystic Tumors of Caruncle: Report of Case of Sebaceous Cyst of Caruncle. J. Green, Jr., St. Louis.—p. 234.
*Radiology or Surgery in Diseased Tonsils. R. H. Lafferty and C. C. Phillips, Charlotte, N. C.—p. 237.

Solution of Endemic Goiter Problem.—Sloan discusses this question from the standpoint of prophylaxis, the basis of his paper being the work done by Marine and Kimball. In their school work Marine and Kimball gave sodium iodid twice a year over periods of two weeks, using 0.2 gm. sodium iodid daily. It takes very little iodin to keep the gland saturated as the normal healthy human gland contains only 30 mg. of iodin, hardly one-half grain. A thyroid lacking iodin takes it up very rapidly. The natural medical tendency is to give iodin in too large doses. In the surgical clinic we frequently see toxic goiters induced by the overadministration of iodin. This toxic condition is also seen in fat people who are attempting to reduce their weight and to this end are taking an overamount of thyroid extract. In the toxic cases for some unknown reason the thyroid is unable to store iodin. The thyroid releases the fabricated, iodin containing thyroxin into the circulation, causing an increase in the bodily metabolism with the well known toxin symptoms of exophthalmic goiter. If the dosage of iodin is controlled carefully there is no danger of inducing exophthalmic goiter by giving it to a patient with endemic goiter. However, in any case in which toxic symptoms have developed, it is the best policy not to give iodin at all. The results of prophylactic treatment of endemic goiter have been most startling. Marine and Kimball showed that among 2,190 normal girls taking 2 gm. sodium iodid twice annually only five showed any enlargement of the gland; of 2,305 normal girls not taking iodin, 495 showed enlargements. Among 1,182 girls with thyroid enlargements who took iodin the thyroids of 773 decreased in size; of 1,048 with thyroid enlargements who did not take iodin the thyroids of only 145 decreased in size. In other words, iodin prevented enlargement of the thyroid in 99 per cent. of the cases. One third of the simple goiters disappeared or were markedly benefited by iodin.

Operation for Undescended Testicle.—Stout's experience has been that the Bevan operation reduces the internal testicular secretion. Orchidopexy is the operation of choice when it can be accomplished without tension on the cord or disturbing the circulation. Orchidocelioplasty cures the physical condition without loss of the testicle or its internal secretion.

Radium in Cancer of Uterus.—Donaldson and Knappenberger have treated sixty-two cases of cancer of the uterus with radium. Eleven have been treated postsurgically. Fifty-one cases have been treated with radium and roentgen ray alone because they were so far advanced as to be inoperable. In this series there were fifty-four cases with the primary growth in the cervix and eight in the fundus. No deaths have resulted from the treatment.

Roentgen Ray in Tonsillitis.—Lafferty and Phillips favor roentgen-ray treatment of diseased tonsils as against surgical treatment. It is safer; more effective; overcomes objection to the knife and the adenoid tissue of the whole throat,

the tonsil, postnasal adenoids, the infratonsillar region, the lingual, and the adenoid tissue scattered in the pharynx is reached by this treatment.

West Virginia Medical Journal, Huntington

February, 1922, **16**, No. 8

Congenital Hypertrophic Stenosis of Pylorus, with Special Reference to Its Symptomatology and Treatment. A. C. Harrison, Baltimore. —p. 295.
Needs of Medical Education at West Virginia University. J. N. Simpson, Morgantown, W. Va.—p. 300.
Epilepsy. J. C. Irons.—p. 304.
Necessity for Early Recognition of Specific Infections. C. C. Peters, Princeton, W. Va.—p. 309.
Early Diagnosis of Brain Tumors Before Eye Signs Occur. Differentiation from Encephalitis and from Hysteria and Emotivity. T. A. Williams, Washington, D. C.—p. 311.
Infectious Osteomyelitis. R. H. Walker.—p. 314.
Physical Signs in Incipient Tuberculosis. A. H. Hoge, Bluefield, W. Va. —p. 317.

Wisconsin Medical Journal, Milwaukee

March, 1922, **20**, No. 10

Types of Severe Anemia: Secondary Hypoplastic Anemia. A. Stengel, Philadelphia.—p. 497.
Relation of Splenic Syndromes to Pathology of Blood. W. J. Mayo, Rochester, Minn.—p. 503.
Physiologic Rationalé for Intrathoracic Surgery. J. L. Yates, Milwaukee.—p. 510.
Recent Advances in Chemistry as Aids to Clinician. H. C. Bradley, Madison.—p. 513.
*Luminal in Treatment of Epilepsy. F. D. Murphy, Milwaukee.—p. 519.

Luminal in Epilepsy.—Murphy's experience with luminal in sixty-three cases of epilepsy was so satisfactory that he urges further investigation. Some patients were relieved of the attacks entirely and at once, while others were apparently not affected at first but gradually the attacks began to decrease in number and severity until at last they ceased altogether; still others never became free from the seizures. Few patients treated were not benefited to some extent by luminal.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Edinburgh Medical Journal

March, 1922, **28**, No. 3

Keratodermia Blenorrhagica. D. Lees.—p. 99.
*Meningeal Nevus Associated with Adenoma Sebaceum. D. M. Greig. —p. 105.
*Torsion of Appendix Epiploica Simulating Acute Appendicitis. J. N. J. Hartley.—p. 111.

Meningeal Nevus.—In Greig's case the cerebromeningeal tumor was associated with right hemiplegia, epileptiform convulsions and that peculiar skin affection known as adenoma sebaceum. The patient, aged 18, was the subject of "fits" during fifteen years and of paralysis of the right side during eleven years. The eruption on his face had been noticed at birth. At operation the Rolandic area was found covered by an enormous number of large veins, forming a vascular tumor, which projected into the upper part of the opening and extended to the great longitudinal fissure. Removal was impossible, so the whole area was gone round with catgut on an aneurysm needle, and every vessel that could be underthreaded was ligatured. Two weeks after the operation he was well. During the succeeding years he continued in fair health, and had no recurrence of his "fits." He was unable to obtain employment on account of his hemiplegia, which only improved and did not pass off; but he remained at home, able to take charge of matters there. Eight years later, however, he began to act strangely, and, finally, his mental condition was such that he had to be placed in an institution.

Torsion of Appendix Epiploica Simulates Appendicitis.—The confusion in diagnosis in Hartley's case was occasioned by a dark purple colored appendix epiploica, attached by a narrow pedicle to the anterior surface of the ascending colon some distance above the ileocecal junction. The appendix epiploica was discoid in shape, heavily laden with fat, and its delicate pedicle was twisted fully twice. Its base was ligated, and the appendix epiploica removed. The patient made a speedy recovery.

Glasgow Medical Journal

March, 1922, **117**, No. 3

*Rickets: The Part Played by Unhygienic Social Conditions in Predisposing to the Disease. D. N. Paton.—p. 129.
Rickets in India. H. S. Hutchison and S. J. Murphy.—p. 145.
*Erect Dislocation of Humerus. J. H. Pringle.—p. 159.
Case of Cerebral Injury and Cranioplasty. R. F. Young.—p. 163.

Unhygienic Conditions as Cause of Rickets.—From his study of rickets Paton has come to the conclusion that it is highly improbable that a disease with such marked clinical features and pathologic changes can be directly caused either by unhygienic surroundings or by defective feeding. The close association of rickets with the conditions of slum life, and the way in which it is apt to affect more than one member of the same family, suggest the possibility of an infective element in its causation. It is not necessary to assume that the infection is a specific one. The onset of xerophthalmia as an accompaniment of arrested growth in the absence of the fat soluble A factor is an illustration of this predisposition to infection. The condition cannot be considered in any other light than as of microbial origin rendered possible by the depressed activity of metabolism.

Erect Dislocation of Humerus.—Pringle relates the case of a man who fell across the well of a hoist, and was probably saved from more serious injury than a dislocation of his shoulder by reason of his right hand and forearm passing between a horizontal iron bar and a small ledge, about a foot and a half below the level of the bar, on the opposite side of the well. He remained suspended over the well of the hoist in this position with his right arm held in extreme abduction and elevation by the weight of his body until he was rescued. A typical "luxatio erecta" of the right humerus had resulted. The head of the humerus caused a very distinct bulging of the right axilla, and the right axillary artery lay upon it and was obviously very considerably compressed, for the radial pulse was very much smaller in the right than at the left wrist. Pringle asserts that only two other similar cases are on record.

Indian Medical Gazette, Calcutta

January, 1922, **57**, No. 1

Rôle of Cattle in Epidemiology of Malaria. A. B. Fry.—p. 1.
Choleroid Epidemic in United Provinces. C. A. Sprawson and J. G. Mukherji.—p. 2.
Rhinosporidium Kinealyi of Conjunctiva. R. E. Wright.—p. 6.
Clinical Pictures of Tuberculosis in Relation to Bones and Joints. A. S. Fry.—p. 7.
Statistics of Treatment of Cholera Cases by Modified Method of Leonard Rogers, as Carried on at Mayo Hospital. L. M. Chatterjee. —p. 10.
*Kala-Azar: Treatment by Intramuscular Injection of Special Preparation of Sodium Antimonyl Tartrate. L. E. Napier.—p. 10.
*Case of Double Facial Paralysis Following Syphilis. P. C. Mukharji. —p. 16.
Case of Snake Bite. D. F. Michael.—p. 17.
Use of Tincture Iodin Intravenously. H. Das Gupta.—p. 18.
*Vaginal Tumor of Unusual Size. N. A. Khan.—p. 18.
Case of Gumma of Vertebrae. G. T. Burke and N. C. Mitra.—p. 19.

Antimony Intramuscularly in Kala-Azar.—Napier relates his experiences with the use of a 2 per cent. solution of a scale preparation of sodium antimonyl tartrate, dissolved in distilled water. All the injections were given intramuscularly. In ten cases the result of the treatment was very satisfactory; seven patients were "apparently" cured; in two the treatment was interrupted while progressing satisfactorily, and one patient is still under treatment, also progressing satisfactorily. All the details that are likely to be of interest are given.

Facial Paralysis Following Syphilis.—In the two cases reported by Mukharji the paralysis developed about two months after the patients disappeared from observation while still under treatment for the primary lesion. A full course of treatment relieved the paralysis.

Vaginal Tumor of Large Size.—The pedicle of the tumor in Khan's case was attached to the posterior wall of the vagina, about an inch and a half from the vulva. The tumor was the size of a large coconut and weighed 20 ounces. The woman gave birth to three children since the first appearance of the tumor. After the first two labors she was able to replace the tumor, but after the third labor the effort failed. This led to the removal of the mass.

Journal of State Medicine, London

March, 1922, **30**, No. 3

Lead Poisoning in Industry. K. Goadby.—p. 93.
Hygiene and Women's Work. M. Scharlieb.—p. 113.
Alcohol as It Affects Community. V. Astor.—p. 118.
Antenatal Care. L. Barrett.—p. 123.

Journal of Tropical Medicine and Hygiene, London

March 15, 1922, **25**, No. 6

Early Contribution to Medical Helminthology Translated from Writings of Arabian Physician Ibn Sina (Avicenna) with Short Biography. M. Khalil.—p. 65.
Susceptibility of Egg Masses of Planorbis to Drying, Chemical Fertilizers, etc., and Its Bearing on Control of Bilharzia Disease. M. Khalil.—p. 67.
Pulmonary Tuberculosis as Problem of Tropical Medicine. W. M. McDonald.—p. 69.

Lancet, London

March 25, 1922, **1**, No. 5143

Future of Hospitals of London. J. K. Fowler.—p. 567.
*Amebic Liver Abscess: Its Pathology, Prevention and Cure. L. Rogers.—p. 569.
Studies in Experimental Scurvy, with Special Reference to Antiscorbutic Properties of Some South African Foodstuffs. E. M. Delf.—p. 576.
Blood Grouping and Clinical Applications: with Simple Method of Group Determination. S. C. Dyke.—p. 579.
*Unusual Case of Rupture of Liver. H. Meade.—p. 582.

Amebic Liver Abscess.—Rogers asserts that the great majority of large amebic liver abscesses, which are sterile as regards bacteria, can easily be cured by repeated aspirations, combined with the the all important administration of the specific ameba destroying ipecacuanha and emetin, with a resulting reduction in the mortality to one fourth of that of the recently generally used open operation; while in the few exceptional cases requiring incision sterile siphon drainage should always be used to avoid the formerly common and fatal secondary bacterial infections following open drainage in tropical countries.

Rupture of Liver with Recovery.—Meade relates the case of a boy, aged 17 years, who when jumping a fence 4 feet high touched the top and was thrown to the road. He immediately felt a heavy dizziness in his head and pain in right side with difficulty in breathing. He got up, walked about 250 yards, and collapsed. Meade saw him about one and a half hours after the accident and found signs of internal hemorrhage. Within forty-eight hours of the accident the right hypochondrium and the right flank became very distended, and he seemed in a hopeless condition but rallied a little and under treatment continued to improve. About seven weeks after the injury a laparotomy was performed. On opening the peritoneum a large cavity was found containing broken down blood clot mixed with bile. The quantity removed was 8 pints, besides what was soaked up in the sponges. The liver was torn in two. The torn portion was adherent to the anterior abdominal wall, cutting off the cavity with the clot from the general peritoneal cavity. The tear in the liver was to the right of the vena cava, and passed almost to the inferior border of the liver at the gallbladder. Being afraid that freeing the adhesions might start a bad hemorrhage the wound was closed with a small drain in the upper angle. After a stormy course necessitating two transfusions the patient regained perfect health.

Practitioner, London

March, 1922, **108**, No. 3

*Clinic Import of Hoarseness in Relation to General Practice: Hoarseness as Early Symptom in Intrinsic Laryngeal Cancer. P. Watson-Williams.—p. 153.
Recent Work on Anesthetics. J. Blomfield.—p. 163.
Venereal Diseases as We Seem Them Today. J. E. R. McDonagh.—p. 172.
Diathermy in Genito-Urinary Practice. K. M. Walker.—p. 192.
Causes of Frequency of Micturition with Reference to Diagnosis and Treatment. W. J. Irwin.—p. 203.
Clinic Demonstration on Some Pelvic Conditions. T. Holmes.—p. 213.
Bases of So-Called Neurasthenic States. T. A. Williams.—p. 220.

Significance of Hoarseness.—Persistent or recurrent hoarseness, Williams says, may for a time portend no more than a lingering of an acute catarrhal laryngitis or recurring catarrh from septic adenoids and tonsils, or result from chronic irritation in chronic alcoholism, dusty occupation, etc. It is in some cases a manifestation of rheumatism or of gout, or it may be due to irritation by a distended tonsillar crypt, a tonsillolith or other local source of irritation. Direct inspection by laryngoscopic examination is most desirable in any case of persistent hoarseness or alteration of voice. From the failure to recognize quickly the gravity of the affection of which hoarseness is the sole manifestation, many lives are sacrificed and the health of many more impaired or even permanently injured.

South African Medical Record, Cape Town

Feb. 25, 1922, **20**, No. 4

Pelvic Inflammation. A. S. Wilson.—p. 62.
Use of Thomas Splint for Leg Injuries. M. G. Pearson.—p. 72.
Case of Intestinal Obstruction by Meckel's Diverticulum. G. C. Smyth.—p. 75.

Archives Médicales Belges, Liége

December, 1921, **74**, No. 12

*Some Lessons of World War in Medicine and Surgery from German Viewpoint. W. S. Bainbridge.—p. 1089.
*Polyneuritis After Injection of Serum. R. Marchal.—p. 1124.
*Fatal Intoxication with Mercuric Cyanid. Lakaye.—p. 1129.
Relation Between Syphilis and Cancer of Respiratory and Digestive Tracts. Lambert.—p. 1132.

Lessons of World War from German Standpoint.—This is a translation of an address delivered by Commander Bainbridge at the 1921 annual meeting of the military surgeons of the United States. He reviews the progress realized in medicine and surgery in Germany during the war.

Polyneuritis After Injection of Tetanus Antiserum.—Marchal reports a case of polyneuritis in a young officer, consecutive to an injection of antitetanus serum after a fall from his horse, in which the knee had been slightly bruised. He had had whooping cough at 7, and diphtheria at 8 entailing polyneuritis in the muscles of the larynx and of the left shoulder. Marchal says that during the war he made thousands of injections of antitetanus serum with never an instance of polyneuritis. Light is thrown on the present case by the postdiphtheric polyneuritis at the age of 8. This second attack was in the same region, and he considers the recurrence as the awakening of an old affection, due to the injection of the antiserum.

Sudden Fatal Intoxication with Cyanid of Mercury.—Lakaye reports the case of a woman of 62 with tabes which ended fatally in five days after three injections of a total of 4 cg. of mercuric cyanid. He advises caution in its use, beginning with small doses and never exceeding 2 cg. daily.

Bulletin de l'Académie de Médecine, Paris

Feb. 28, 1922, **87**, No. 9

Hygiene of the Mind: Cultivation of the Faculty of Thinking of Nothing. Guéniot.—p. 250.
*Protecting Bricks for Roentgen Work. H. Béclère, J. Chevrotier and H. Lumière.—p. 255.
*Epizootic Lymphangitis in Horses. A. Buquet and L. Nègre.—p. 257.

Bricks for Roentgen-Ray Work. — Béclère and his co-workers use bricks containing each 1 kg. of baryta. This is as complete a protection against the roentgen rays as a sheet of lead 2.4 mm. thick, while walls, partitions, etc., can be conveniently and economically constructed of such bricks.

Epizootic Lymphangitis.—Boquet and Nègre refer to a mycosis affecting horses, due to Rivolta's cryptococcus. They have made a vaccine for it, and state that 80 per cent. of 200 horses treated with it in Algiers were cured and 74 per cent. of 246 horses in France.

Bulletin Médical, Paris

Feb. 25, 1922, **36**, No. 9

*Pathology of the Sympathetic System. A. C. Guillaume.—p. 155.
*Vagotonia. F. Moutier.—p. 158.
*Asthma. M. Ségard.—p. 160.
Limits and Extent of the Pathology of the Sympathetic. A. C. Guillaume.—p. 166.

Pathology of the Sympathetic Nervous System.—Guillaume remarks that the neuroglandular system of the vegetative life of the organism has only a very modest personal pathology, but it intervenes in all the pathologic conditions of this organovegetative life. Hence the pathology of the organs and tissues which pertain to this vegetative life is the pathology of the sympathetic system, just as its pathology is theirs.

Vagotonia.—Moutier's own experience has been that vagotonia is encountered only in persons with narrow pupils, exaggerated oculocardiac reflex, respiratory arrhythmia, frequent extrasystoles, reacting vigorously to pilocarpin, and displaying a tendency to pains, colics and sphincter disturbances at the cardia, pylorus or anus.

Treatment of Asthma.—Ségard remarks, "When I had studied ten cases of asthma, I thought I knew asthma well; when I had studied a hundred cases, I was not so sure of this, and now that I have seen a thousand cases I feel that I know scarcely anything about it at all." . . . "I have never seen the multiple overlapping causes exactly the same in even two cases." The digestion, the food, the respiration, the emunctories may all be concerned in the production of the asthma, and we may have to check or whip up either the vagus or the sympathetic system. He warns against breeding an addiction; he has seen many instances of epinephrin addiction. One such addict had been injecting about 0.33 c.c. of the 1:1,000 solution of epinephrin every three hours for six months. He uses a 1:2,000 solution and keeps to the smallest possible effectual dose. This in the sympatheticotonia cases and belladonna in the vagotonia cases represent great progress in treatment of asthma. The balance between these systems is unstable, and one may predominate one day and the other the next. It would be better to call the condition neurotonia, he says, instead of specifying which system happens to be predominating at the moment. The instability of the colloids in the plasma is a further element which has to be considered in treatment of asthma. The beneficial action of courses of mineral waters is easily explained, he says, now that we understand better the pathogenesis of asthma. The course aids in detoxication, promotes the healing of bronchial lesions, soothes the nervous system and aids in desensitizing against the anaphylaxis.

March 4, 1922, **36**, No. 10

Intestinal Parasites. G. Lyon.—p. 181.
Diabetes with Abolished Reflexes in Man of 60, Son of a Syphilitic. M. Pinard and Mendelssohn.—p. 186.

March 11, 1922, **36**, No. 11

Antigonococcus Vaccine Therapy. R. Le Fur.—p. 199.
Vagotonia. A. C. Guillaume.—p. 200.
*Case of Rebellious Hydrophobia. Degrave.—p. 208.

Hydrophobia Rebellious to Pasteur Treatment.—The young woman had been given the usual Pasteur treatment, the third day after she had been bitten in the hand by a rabid dog. Sixty-three days after the completion of the course she developed rabies, fatal in thirty-six hours. At the time of the bite she was in a very depressed, nervous condition, and after the treatment had been constantly apprehensive, weak and morbid. The laceration of the hand had not been cauterized, but merely swabbed with iodin and rinsed with Van Swieten's solution. The physical condition had been so poor that the organism was unable to respond adequately to the Pasteur treatment.

Bulletins de la Société Médicale des Hôpitaux, Paris

Feb. 17, 1922, **46**, No. 6

Gangrenous Vaginitis. G. Laroche and Deglaire.—p. 294.
*Typho-Bacillosis. C. Souleyre.—p. 296.
*Gangrene from Illuminating Gas. Garnier and Cathala.—p. 304.
*Pituitary Treatment of Diabetes Insipidus. Démètre.—p. 308.
*Alcoholic Injury of Spinal Cord. Oettinger and Manouélian.—p. 316.
*Lesions of Auricles and Arrhythmia. P. Ribierre and R. Giroux.—p. 318.
*Lumbar Puncture in Diabetes. J. Lhermitte and C. Fumet.—p. 322.
Dilatation of Bronchi with Secondary Tuberculization. E. Rist and P. Ameuille.—p. 328.
*Improved Colorimeter. A. Baudouin and H. Bénard.—p. 332.
Instruments for Tracheo-Fistulization. G. Rosenthal.—p. 345.

Brief Incubation of Tuberculosis.—Souleyre reports the case of a robust boy of 12, in a hygienic country home, who was exposed for only thirteen days to contagion from an open case of unsuspected tuberculosis in a guest visiting in the home. The boy then developed symptoms suggesting rearousing of his mild malaria and other symptoms suggesting typhoid, but their true nature was revealed by swarms of tubercle bacilli in the pus from an accidental abscess. He was the only one of the ten children infected by the tuberculous guest. The interval of thirteen days seems short, but instances are cited of even less than this.

Gangrene from Toxic Arteritis.—Intoxication with illuminating gas was responsible for the arteritis of the terminal arteries entailing patches of gangrene.

Pituitary Treatment in Diabetes Insipidus.—Démètre presents arguments to sustain the assumption of a renal functional element directly connected with some permanent secretory deficit in the pituitary as the cause of diabetes insipidus. Pituitary treatment has a direct but transient action on the polyuria, as he shows by the typical cases described.

Alcoholic Paralysis.—The motor cells of the cytoplasm of the spinal cord showed pronounced vacuolization in two women with alcoholic paraplegia.

The Anatomic Basis of Total Arrhythmia.—After a bullet wound of the chest, complete arrhythmia developed in the man of 38. Under digitalis the pulse dropped from 130 to 100 and was less irregular, but the man died the second day after the injury. The bullet had entailed a hematoma in the cellular tissue around the aorta and in the roof of the right auricle. The heart was intact otherwise.

Effect of Lumbar Puncture in Diabetes.—Lhermitte and Fumet report that the polyuria and the glycosuria dropped decidedly when 7 or 8 c.c. of cerebrospinal fluid was withdrawn. The patients were two diabetic women in the seventies, and this same inhibiting influence was noted on repetition of the lumbar puncture. No effect was apparent from subcutaneous injection of hypertonic saline solution, which it was hoped might answer the same purpose as the lumbar puncture.

Improved Colorimeter.—The instrument illustrated by Baudouin serves for a colorimeter, a nephelemeter (gage for opacity and diffusion), a differential spectroscope, and a spectrophotometer.

Gynécologie et Obstétrique, Paris

January, 1922, **5**, No. 1

*Lutein Cells and Uterine Hemorrhage. G. de Rouville and P. Sappey.—p. 1.
*Neoplasms of Cervical Glands. K. Moukayé.—p. 39.
*Lutein Cysts in Pregnancy. Lévy-Solal, Lelièvre and H. Vignes.—p. 70.
*Treatment of Metrorrhagia in Young Girls. H. Hartmann.—p. 81.

The Lutein Cells in Relation to Uterine Hemorrhage.—The photomicrograms reproduced by Rouville and Sappey sustain the assumption that the secretion of the lutein cells is responsible for menstruation and uterine hemorrhage when there is no general cause or local lesion in the uterus. In amenorrhea, few or no lutein cells are found in the ovary; with normal menstruation the lutein cells are moderately numerous, while with excessive, repeated uterine hemorrhage, the lutein cells were always found abnormally numerous and large. The macroscopic aspect of the ovaries is not decisive; only the microscope will show the actual proportion of lutein cells. The cases cited are selected as typical from a large material of operative cases of ovarian disease: always, with hemorrhage, swarms of lutein cells; always, without hemorrhage, lutein cells scarce.

Cancer of Glands in the Neck.—Moukayé analyzes twenty-six cases of cervical adenoma in the last two years. There was no metastasis and no invasion of the depths as a rule. Even if the glandular process is malignant, it is not very virulent. Chronic inflammation of the glands in the neck is the first stage. The lobulated form of adenoma seems more liable to malignant transformation than the papillary form, and requires more radical excision. Cylinder cell cancers seem to develop by preference in small or even microscopic adenomas. They can be differentiated by the lack of mucus

and the return of karyokinesis, but all adenomas should be extirpated, he reiterates in conclusion.

Bilateral Lutein Cysts.—The primipara of 30 was delivered of a normal child at term although both ovaries were studded with lutein cysts. The aspect of the cysts was such as we are accustomed to associate with a mole or chorio-epithelioma, but the placenta was normal.

Metrorrhagia in Young Girls.—After exclusion of removable causes, Hartmann believes in giving radium treatment a trial. This offers relief with a chance of retaining the genital functions, but in the present status of our knowledge we are unable to state positively the outcome to the family. Syphilis affecting the ovaries may induce tenacious and rebellious uterine hemorrhage, and this should always be excluded before resorting to operative measures. Ovarian cysts do not induce hemorrhage, and adnexitis is rarely a cause of virginal hemorrhages.

Paris Médical

Jan. 7, 1922, **12**, No. 1

*Tuberculosis in 1922. P. Lereboullet and L. Petit.—p. 1.
*Diagnosis of Tuberculosis from Sputum. A. Calmette.—p. 13.
*Tuberculous Pneumonia. E. Rist and P. Ameuille.—p. 14.
Removal of Infants from Tuberculous Mothers. L. Bernard.—p. 21.
*Remote Results of Sanatorium Treatment. R. Burnand.—p. 24.
Pituitary Treatment of Hemoptysis. A. Pissavy.—p. 28.
Trauma and Surgical Tuberculosis. J. Madier.—p. 30.

Tuberculosis in 1922.—Lereboullet's annual chronicle of the progress realized in fighting tuberculosis states, this year, that the efforts since the war are beginning to show results. He emphasizes anew that the physicians connected with the preventoriums must be sociologists and not therapeutists. France is now rich, he says, in devoted and competent visiting nurses, with eight training schools in seven large cities. He urges that the state should provide disability and retirement pensions for the trained visiting nurse. Thirty-four practitioners recently took the graduate course for preventorium work before founding preventoriums in Bretagne and Anjou, taking advantage of the Rockefeller scholarships for the purpose. France now has 425 tuberculosis dispensaries and 214 sanatoriums with a total of 27,515 beds. This includes forty-four at the seashore with 8,148 beds and forty-seven public sanatoriums with 4,546 beds. These figures do not include the tuberculous placed in private families. Among the 2,300 children of tuberculous families at Paris, placed in healthy country homes by the Oeuvre Grancher, only seven have developed tuberculosis. The recent great progress realized with Besredka's and Calmette's antigens has brought confirmation of the reliability of negative fixation of complement in the diagnosis of tuberculosis, when syphilis and malaria can be excluded or the infection is not very recent or the infection is not extremely rapid and debilitating. This fixation of complement test even thus improved is less sensitive than the skin reaction, but it precedes positive findings in the sputum. When it veers to negative after having been positive, this corroborates the clinical cure. The general verdict on the Wildbolz urine test is that too many factors enter into it for it to have any value in the diagnosis or the prognosis of tuberculosis. A pregnancy seems to reduce the resistance to tuberculosis, and the latter is always aggravated by the evolution of the pregnancy. If only one lung is affected, early artificial pneumothorax is liable to prove extremely useful. Rist urges careful search for a pulmonary lesion in pregnant women, as a prompt artificial pneumothorax may ward off all trouble from this source. He has reported a striking case of the kind, and Hervé, three cases. It requires, however, the close cooperation of the obstetrician, the radiographer and the lung specialist physician. Serotherapy has gone backward rather than forward in the last year, and tuberculin treatment, Lereboullet remarks "is now condemned by the majority of phthisiologists." Shiga and Rappin have each reported encouraging results from vaccine therapy of tuberculosis. Artificial pneumothorax continues to give favorable results in skilled hands, but the necessity for gaging the intrapleural pressure must be borne in mind. The weight, sputum, auscultation and roentgen findings must be supervised, and Jacquerod has recently emphasized the necessity for maintaining the pneumothorax indefinitely, possibly the whole life long. Burnand has recently commented on the rapidity with which adhesions form when the pneumothorax is suspended, thus preventing resort to it again later when indicated.

Diagnosis of Tuberculosis from the Sputum.—Calmette expatiates on the reliability and advantages of the Petroff method of cultivating tubercle bacilli directly from the sputum. He has been using it for months with no failures. The colonies of the tubercle bacilli are manifest in from eight to fourteen days at longest.

Tuberculous Pneumonia.—Rist and Ameuille present evidence that chronic pulmonary tuberculosis is nothing but a succession of pneumonias. This conception of the evolution by a series of *poussées* renders it necessary to refrain from passing judgment on the lesion until the ebb and flow are past, and the lesion has retrogressed as much as it can retrogress. Every one of the waves of pneumonia must be estimated in the same way, not accepting the sometimes stormy onset of the wave and the extent of the initial lesion as definitely settled, but waiting for the wave to ebb before passing judgment on the damage it has wrought. The prognosis has to be based on the general average as the waves come and go, and the extent of parenchyma of the lung still intact.

Ultimate Outcome of Sanatorium Treatment.—Burnand prints the questionnaire he has been sending to 1,340 former patients treated at the Leysin Sanatorium, and leaving between 1912 and 1917. The questionnaire was filled out and returned by 644 families. Of the 331 known to be living, 286 have full earning capacity restored; 32 are able to do only light or intermittent work and 13 do not support themselves. Of the 174 supposedly cured when they left the sanatorium, 85.05 per cent. have their full earning capacity. Of the 438 listed as cured or materially improved, 63.24 per cent. still have full capacity from four to eight years later. Of the 313 who have died since, 217 were in the third stage, 78 in the second, and only 18 were in the first stage. On the other hand, 164 of the 318 with restored earning capacity were in the second and third stages of the disease. He regards these figures as encouraging, saying that advanced cases do not belong in a people's sanatorium, the aim of which is to restore the full earning capacity. He emphasizes further that even a six months' stay is too short. Phthisis, he reiterates, is a very grave disease, and he warns those who write so optimistically about curing it in short order with this or that. The mountain climate he regards as a capital factor in starting the process of repair, and artificial pneumothorax as an adjuvant of the highest rank in combating the grave cases. Farm colonies or other arrangements for favorable conditions of life after leaving the sanatorium are needed to consolidate the cure.

Presse Médicale, Paris

March 4, 1922, **30**, No. 18

*Anaphylaxis and Idiosyncrasy. F. Widal, P. Abrami and J. Lermoyez.—p. 189.
Mechanism Regulating Arterial Pressure. J. P. Langlois and L. Binet.—p. 194.

Anaphylaxis and Idiosyncrasy.—Widal and his co-workers argue that certain persons seem to react with flocculation of the colloids in the blood serum more readily than others. It might almost be called a diathesis, this constitutional predisposition to colloidoclasis on slight provocation. They have long had under observation a case of this diathesis in a most pronounced form. The instability of the woman's plasma colloids is evident in her paroxysmal itching, eruptions, urticaria, febrile periods, spasmodic coryza, hay-fever and asthma, which develop from exposure to pollens, chilling of the skin, ingestion of antipyrin or acetylsalicylic acid, or irritation from a polyp in the nose. She is a robust woman of 37, otherwise healthy, and this tendency to these anaphylaxis and idiosyncrasy phenomena has developed in the last eleven years, with a progressive and kaleidoscopic course. Ingestion of 10 cg. of acetylsalicylic acid induces immediate hemoclasis. In two minutes the leukocytes drop from about 12,800 to 8,200; then follows a generalized eruption, with headache, malaise and intolerable pruritus. A little later

there is dyspnea, and by the end of the hour an attack of asthma and symptoms of coryza, the lacrimation and sneezing persisting until the next day. The chilling of the skin on stepping out of a warm bath is enough to bring on the whole set of symptoms just as complete as exposure to pollens or ingestion of the two drugs to which she is susceptible. This demonstrates that while anaphylaxis may be incriminated for some of the manifestations, we must ascribe others to an idiosyncrasy, and proves that the underlying cause of both is the instability of the colloid balance in the plasma. By desensitizing the woman to acetylsalicylic acid by a course of minute daily doses, 1 cg. for four days; then for the same length of time, 2 cg., then 3, and then 5 cg., the desensitization was complete, so she can now take at any time 60 cg. of the drug without disturbance of any kind. This desensitization banished at the same time the susceptibility to antipyrin. But the susceptibility to chilling, to pollens, etc., still persists unmodified.

Progrès Médical, Paris

March 11, 1922, **37**, No. 10

Action of Autoserotherapy on Albumins and Lipoids in Blood Serum with Cancer. Loeper, Debray and Tonnet.—p. 109.
Definition and Causes of Overwork in Schools. Paul-Boncour.—p. 109.
Signs of Intracranial Pressure and Treatment. Delbet.—p. 111.

Schweizer Archiv f. Neurol. u. Psychiatrie, Zurich

1921, **9**, No. 2

*Regeneration of the Nervous System. C. A. Perret.—p. 163.
*Regeneration of the Nervous System. R. Bing.—p. 189.
Apraxia. R. Brun.—p. 194. Cont'n.
Sensibility in the Skin and Deeper Tissues. Doebeli.—p. 227. Conc'n.
Research on Coffee. H. W. Maier.—p. 244. Conc'n in Vol. 10, p. 80.
*Muscular Atrophy After Division of Nerve. A. Audova.—p. 270.
*Dwarf and Giant Growth. A. Gigon.—p. 283. Conc'n Vol. 10, p. 113.

1922, **10**, No. 1

Morphology and Pathogenesis of Encephalitis. C. v. Monakow.—p. 3.
Case of Hemicephalus. E. de Vries.—p. 32.
Personal Experiences with Psychotherapy. A. Maeder.—p. 100.
Psychology of Traumatic Neuroses. H. Meier-Müller.—p. 130.

Regeneration of the Nervous System.—In this address delivered at the annual convocation of Swiss neurologists, Perret spoke from the surgical standpoint, while Bing discussed the sources of error in the clinical evaluation of the regeneration of injured trunk nerves. (Both are in French.)

Muscular Atrophy After Division of Nerves.—Audova discusses the various factors involved in the atrophy of the skeletal muscles after a nerve has been severed. In the rabbit, the loss in weight or dry substance may amount to 50 per cent. in four weeks. The chemical composition also is modified. No tendency to hypertrophy of corresponding muscles in the sound limb could be discovered.

Dwarf and Giant Growth.—Gigon has had opportunity to examine and apply various functional tests to eight persons of exceptionally small or large growth, including a man of 21 only 87 cm. tall; a girl of 4, 73.5 cm. tall; a woman of 22 whose height is 207 cm., and a man of 29 who, reclining, measures 237 cm., nearly 7 feet, 11 inches. This is the London giant known as "Bobs." His height, standing, is 234 cm. but he weighs only 112 pounds, confirming the osteoporosis evident in the roentgenograms. The giantism is of the acromegaly type, the muscles weak. The female giant is exceptionally well proportioned and apparently healthy, but the menses are rare and there is a very slight tendency to a eunuchoid type, and there is one exostosis on the right tibia.

Archivio Italiano di Chirurgia, Bologna

February, 1922, **5**, No. 1

*Endothelioma of the Brain. D. Maragliano.—p. 3.
*Kidney Tumor with Misleading Symptoms. A. Comolli.—p. 17.
*Ligation of Wisp of Bladder. F. Nassetti.—p. 41.
Clinical and Bacteriologic Aspects of Necrotic Osteomyelitis After War Wounds. O. Uffreduzzi and G. M. Faslani.—p. 54.
*Racemose Angioma. A. Bertocchi.—p. 65.
*Mixed Tumors of Salivary Glands. I. Arzelà.—p. 87.

Endothelioma of the Brain.—Maragliano reports the complete clinical recovery of a shoemaker of 48 after enucleation of an endothelioma, the size of a mandarin orange, in the parietal and frontal lobes. It shelled out easily in its capsule. The jacksonian epilepsy had begun about a year before, and paresis had followed, the general condition growing worse until the man was entirely incapacitated. There was profuse hemorrhage at the first trephining, and the lifting of the flap was postponed for five days. This revealed the tumor, and a scrap was taken for examination, but, as the pulse was growing weak, the flap was replaced and sutured. Four days later the flap was raised again and the tumor was easily shelled out. It was extremely vascular and the cavity left in the compressed brain substance had no meninges. The general condition and pulse kept good throughout the enucleation. To ward off adhesions, a flap of fascia lata was interposed between the brain and the bone, and the skull was replaced and sutured except for one small gauze drain. Full earning capacity has been restored for eight months to date. A course of treatment for syphilis had preceded the operation, and some improvement had been realized although there was nothing to suggest syphilis. Maragliano expatiates on the advantages of operating thus in several sittings, allowing recuperation from the shock of hemorrhage from the soft parts and the shock from cutting the skull flap, without opening the dura, before attacking the tumor itself. He thinks that the lifting of the flap and opening the dura are the most dangerous steps.

Kidney Tumors.—In Comolli's three cases, serous cysts, a hydatid cyst and an adenocarcinoma had induced a puzzling train of symptoms in the respective cases, the urine being apparently normal throughout, and thus misleading the diagnosis. Pyelography gave the clue, and two of the patients recovered after nephrectomy. The man with multiple hydatid cysts died.

Ligation of Part of Bladder Wall.—Nassetti's research on rabbits has apparently established the feasibility of tying off a wisp of the bladder wall.

Racemose Arterial Angioma.—Bertocchi compares the literature on this subject with a case in which he successfully removed an angioma of this kind on the right frontoparietal region of the man of 37. The erectile and pulsating tumor was about as large as an orange, and it had ulcerated at one point. It was resected at two sittings after ligation of both external carotids, and ligation of numerous vessels entering the angioma.

Tumors of Salivary Glands.—Arzelà's study of the histogenesis and course of mixed tumors of the salivary glands is based on six cases.

Archivio di Patologia e Clinica Medica, Bologna

January, 1922, **1**, No. 2

Muscular Tension of the Stomach. A. Gasbarrini.—p. 105.
Action of the Extract of the Posterior Lobe of the Pituitary Body. L. Villa.—p. 152.
*Research on Dogs Immunized Against Pyrodin. S. Zisa.—p. 165.
Present Status of the Oculocardiac Reflex. A. Alchieri.—p. 194.

Experimental Phenylhydrazin Poisoning.—Zisa reports comprehensive research on pyrodin poisoned dogs, tabulating the findings which confirm the apparent immunization of the erythrocytes against the action of this and certain other poisons.

Policlinico, Rome

Feb. 20, 1922, **29**, No. 8

*Sugar in Blood with Arteriosclerosis. A. Botti.—p. 249.
*Tuberculous Meningitis with Hemiplegia. S. Pulvirenti.—p. 251.
Intensive Antitoxin Treatment of Tardy Postdiphtheric Paralysis. D. Tangheroni.—p. 256.
Hygiene of the Mouth. B. De Vecchis.—p. 258.
Influence of America on History of Medicine. P. Giacosa.—p. 267.

The Sugar Content of the Blood with High Blood Pressure.—Botti refers to the hypertonia of arteriosclerosis, stating that the sugar content of the blood was abnormally high in ten cases tested. The tolerance for sugar was reduced. Albertoni asserts that sugar increases the blood pressure, but in Botti's case the hypertension and the sugar level did not parallel each other.

Hemiplegia in Tuberculous Meningitis.—Pulvirenti reports two cases, secondary to Pott's disease, in women. The hemiplegia developed suddenly, with symptoms suggesting cerebral hemorrhage. The right motor zone was the focus

in one case. In the other the right hemiplegia with motor aphasia was explained by the extensive focus in the left hemisphere secondary to arteritis.

Riforma Medica, Naples

Jan. 9, 1922, **38**, No. 2

*Integral Tuberculin. L. Sivori and U. Rebaudi.—p. 25.
Castellani's Vibriothrix Ceylonica. I. Jacono.—p. 32.
*Glycuronuria in Children. M. Coda.—p. 32.
The Limits of Workmen's Compensation. E. Aievoli.—p. 36.

Preparation of Integral Tuberculous Toxin.—This communication from Maragliano's institute for the study of tuberculosis reports the rapid reduction of living tubercle bacilli to a mass containing all their elements, an amorphous Ziehl-negative mass, which yields a peculiarly effectual tuberculin.

Glycuronuria in Children.—Coda found glycuronuria in 15 of 48 children with normal temperature and in 12 of 36 febrile cases in children. The test was constantly positive in 3 epileptic children but never in the 7 children with chorea. In the 27 glycuronuria cases there was indicanuria in 17. The test was always negative in healthy infants, while the findings were positive in 9 of 12 with fever and in the 8 with bronchopneumonia.

Brazil-Medico, Rio de Janeiro

Jan. 7, 1922, **36**, No. 1

Sodium Morrhuate in Pulmonary Tuberculosis; Sixteen Cases. C. Ferreira.—p. 1.
*Nature of Shock. A. L. Pimenta Bueno.—p. 5.
Therapeutic Action of Violet and Ultraviolet Rays. Carvalho.—p. 8.

Nature of Shock.—Pimenta Bueno explains that there is a compressive and decompressive interdependence between the blood pressure in the abdomen and in the skull. In the abdomen the elastic walls allow great fluctuation in the pressure without harm, but the unyielding skull may entail grave accidents when the pressure fluctuates here. Congestion in the splanchnic area from paralysis of the sympathetic nervous system is accompanied by corresponding anemia and decompression in the skull, and this is the main mechanism of traumatic, operative, anaphylactic and other shocks, as he sets forth in detail.

Crónica Médica, Lima, Peru

November, 1921, **38**, No. 701

*The Oculocardiac Reflex. D. C. Espino.—p. 345.
Rare Earths in Treatment of Tuberculosis. L. Bardales.—p. 352.

The Oculocardiac Reflex.—Espino recalls that the extensive literature on this subject contains so much that is contradictory that it is difficult to estimate the significance of this reflex. He applied the test to thirty-five inmates of an institution for the insane, each tested three times. In these psychopaths the response to compression of the eyeball was a moderate slowing of the pulse and respiration. This reaction was never intense and in a few instances there was no reaction, or the pulse and respiration were speeded up instead of slowed. The response varied at different times in the same individual, even in the course of the same day. It seems evident, he says, that this and similar sensory stimuli are able to induce a general motor reflex in the vegetative system which enables us to penetrate farther into the No Man's Land of psychoses, neuroses, etc.

December, 1921, **38**, No. 702

*Yellow Fever in Peru. M. Quiros.—p. 381.
*Yellow Fever in Pacasmayo Province. N. E. Cavassa.—p. 401.

Yellow Fever in Peru.—The history of yellow fever in Peru is here brought down to date, and the mode of invasion.

Semana Médica, Buenos Aires

Jan. 12, 1922, **29**, No. 2

*Nomenclature of Dystocia. E. Zarate.—p. 33.
Bismuth in Treatment of Syphilis. J. Nin Posadas.—p. 37. Idem. N. V. Greco.—p. 64.
Present Status of the Vitamin Question. H. Damianovich.—p. 42.
Hospitalization of Tubercle Bacilli Spreaders. Muzio.—p. 57.
Preparation of Pneumococcus Antivaccine. E. Lorentz.—p. 60.
Inguinal Hernia as Industrial Accident. Moreno.—p. 68.
Technic for Making Mineral Cells (Plasmogenesis). A. L. Herrera.—p. 71.

Dystocia.—Zarate calls upon young physicians to study the phenomena of dystocia and suggest a better and more uniform nomenclature. He says that the only form that can be accepted as a pathologic entity is annular dystocia, from stricture of the uterus. This is rare; Gammeltoft found records of only twenty-three cases in 35,000 deliveries at Copenhagen in eighteen years, but the tendency is to ascribe every difficulty in delivery to this stricture. Dystocia from general retraction of the uterus, a constriction of the organ, may occur in septic infection or from toxic changes in the muscular fibers.

Jan. 19, 1922, **29**, No. 3

*Gynecologic Radiotherapy in Argentina. C. A. Castaño.—p. 77.
Oxidase Reaction in Diagnosis of Leukemia. R. G. Cabred.—p. 91.
Bismuth in Treatment of Syphilis. O. Calcagno.—p. 95. Idem. J. Nin Posadas.—p. 100.
Public Health Matters in Northern Argentina. G. Sirlin.—p. 98.
Etiology and Social Prophylaxis of Syphilis in Argentina. J. B. de Quirós.—p. 101.

Radiotherapy in Uterine Disease.—Castaño relates what has been accomplished to date in Argentina with the roentgen rays in treatment of uterine myoma and hemorrhagic metropathies. He gives sketches of the outline of the uterus before and after the treatment in a number of cases from his total 250 cases of fibromas treated in this way in the last seven years. The age of the patient and the size of the tumor are immaterial, but myomas without much fibrous tissue retrogress more readily than hard fibromas. All were cured of the cases selected for radiotherapy. Anemia and heart disease turn the scale in favor of radiotherapy in many cases in which operative measures would be indicated otherwise. The fibromas do not subside unless complete amenorrhea is induced. Radium is preferable for hemorrhagic metropathies on this account, as the exposures can be graduated to induce oligorrhea. The amenorrhea is not accompanied by symptoms of the menopause, which testifies that the ovarian functions otherwise persist: three of the women became pregnant in the midst of the amenorrhea. There is no recurrence of myomas after roentgen treatment as is liable after myomectomy. Before treatment is begun, the condition of the endometrium is ascertained by biopsies, with serial frozen sections in case of doubt, and the minimal sarcoma dose is always given to be on the safe side.

Beiträge zur klinischen Chirurgie, Tübingen

1922, **125**, No. 1

*Operative Treatment of Hydrocephalus. A. Läwen.—p. 1.
*Surgery of the Rectum. E. Eichhoff.—p. 17.
*Mild Hyperfunctioning of the Thyroid. A. Hellwig.—p. 75.
Turtle Tubercle Bacilli Vaccine. H. F. O. Haberland.—p. 117.
*Angiomas in the Brain. Ellen Lechner.—p. 174.
*Benign Stenosis of Papilla of Vater. H. Altemeyer.—p. 195.
Etiology of Schlatter's Disease. W. Altschul.—p. 198.
Nature of Paget's Disease of the Bone. P. Caan.—p. 212.
Fracture of Vertebra from Muscular Traction. G. Wolff.—p. 245.

Operative Treatment of Hydrocephalus.—Läwen reports operations on the choroid plexus of the lateral ventricle, or making an opening through the corpus callosum to relieve internal hydrocephalus. His four cases teach the necessity for only gradually reducing the intracranial pressure. His cases all terminated fatally although experiments on dogs had apparently established the feasibility of fenestration of the corpus callosum, and even of resection of the choroid plexus.

Surgery of the Rectum.—Eichhoff reviews the experiences with 1,021 cases of rectal cancer at the Breslau surgical clinic since 1879. This material emphasizes anew that rectal cancer is seldom discovered until in an advanced stage. In fully 60 per cent. of the inoperable cases the patients had sought medical aid in ample time, but months had been wasted in conservative treatment for the assumed hemorrhoids or catarrhal enteritis before a thorough examination was made. Only 8.5 per cent. of all the patients reached the surgeon in a month after the first symptoms, and the interval was over two years in 12.2 per cent.; it was over three years in 15 and eight years in 1 case. Various tables show the outcome of the operative cases, classified by the method of treatment applied. Long survival is possible with rectal cancer. In 170 operable cases in which an operation was refused, 15 per

cent. lived for over two years and one for over five years, but 2 committed suicide during the fifth year. Of the 326 radical operation cases, 79 did not survive the operation. Of the 209 cases traced to date, 28.7 per cent. are still living and in good condition.

Moderate Hyperthyrosis.—Hellwig explains that exophthalmic goiter is the last link in a long chain of phenomena which, with all their manifold and diverse clinical pictures, yet can all be traced to the same cause, excessive secretion in the thyroid. He has been comparing the histologic findings in the thyroid with the clinical symptoms of slight hyperthyrosis, and gives the photomicrograms from ten such cases.

Angioma of the Brain.—Lechner summarizes fifty-six cases from the literature and gives the details of a case in a young man. The tumor was removed but necropsy less than three weeks afterward revealed diffuse meningitis. The angioma was in the right temporal lobe with softening of brain tissue around it. The symptoms had been those of epilepsy.

Benign Stenosis of Papilla of Vater.—Altemeyer describes his success in five of six cases treated by introducing a T drain into the duodenum through the papilla. A sound is introduced first in the common bile duct and worked down to the papilla, and the tip is pushed through a minute incision. A stout silk is tied to the tip of the sound, and the sound is then drawn back. Then one arm of the T drain is tied to the silk and it is thus drawn in. The small arm is pushed into the hepatic duct. The leg of the T drain protrudes from the incision in the common bile duct, and the drain is removed in from one to three weeks as the case requires. The one patient that did not survive succumbed to complications from the liver.

Deutsches Archiv für klinische Medizin, Leipzig

Feb. 21, 1922, **138**, No. 5-6

*Action of Epinephrin on the Circulation. A. Hotz.—p. 257.
Pressure on Walls of Arteries. A. Hotz.—p. 257.
*Interchanges Between Blood and Tissues. J. Bauer and B. Aschner.—p. 270.
*Hyperplasia of Endothelium. E. Goldschmid and S. Isaac.—p. 291.
*Estimation of Urobilin in Excreta. A. Adler.—p. 309.
*Influence of Food on Bilirubin Content. E. C. Meyer and H. Knüpffer.—p. 321.
*Endothelial Cells in Blood Stream. F. O. Hess.—p. 330.
Uric Acid Content of Blood in Kidney Disease. E. Krauss.—p. 340.
*Acute Monocyte Leukemia. Ewald, Frehse and Hennig.—p. 353.
*Test of Bone Marrow Function. M. J. Roessingh.—p. 367.

Action of Epinephrin on the Circulation.—Hotz theorizes to explain the energometric findings under epinephrin. He contends that vasodilation is not the main factor in the phenomena observed.

Influence of Diuretics.—This is the first of a series of studies of the interchange phenomena between the blood and the tissues. Research on the extrarenal factors in the action of diuretics is described here.

Hyperplasia of Endothelium.—Goldschmid and Isaac discuss the proliferation of endothelium as a characteristic of all parts of the blood-producing apparatus in leukemia. A case is described with much detail in a woman of 54, with enlargement of the spleen and liver and severe anemia. Necropsy showed systematic proliferation of the endothelium of the blood-producing apparatus, the reticular portion intact. Slight improvement had followed roentgen exposures of the spleen, but it was only transient. The case was first seen too late for splenectomy to be considered. They report the case as a new type of disease.

Urobilin.—Adler describes a simple technic for estimation of the proportion of urobilin in urine, stools, duodenal juice and blood. He uses the Schlesinger reagent, oxidizing with iodin, and estimating the amount of urobilin in the fluid by the dilution required for the last trace of green fluorescence to disappear.

Bilirubin in the Blood.—Meyer and Knüpffer tested the blood of 194 persons for the bilirubin content. It declined regularly in the normal in from two to five hours after dinner, but began to increase again usually by the eighth hour. The bilirubin content of the blood thus fluctuates up to 100 per cent. even in normal conditions. The tests were made with the diazo reaction. This reaction occurs immediately in the blood of persons with jaundice from stasis, while there is a delay of minutes to hours with normal blood, and the reaction does not occur at all unless alcohol is added. With a damaged liver, the bilirubin content of the blood began to increase at once after eating. The findings in various diseases are compared.

Endothelial Cells in Blood Stream.—Hess states that in eleven cases of endocarditis lenta, he found from 36,800 to 112,000 leukocytes in blood from the ear while blood from the finger never showed more than 3,920 to 7,200. He argues from the data presented that the toxins of *Streptococcus viridans* induce a reaction in the entire endothelial system. It manifests itself mainly in an intense proliferation of cells, with phagocytosis. This may throw light on the thrombosis and embolism in this disease.

Monocyte Leukemia.—Three cases are reported of acute monocyte leukemia with from 4.5 to 8 per cent. myeloblasts, *stammzellen*.

The Bone Marrow in Anemia.—Roessingh presents evidence to sustain his assertion that it is possible to estimate the functional capacity of the blood-producing apparatus by determination of the amount of oxygen consumed and by the response to vital staining. Determination of the consumption of oxygen is a tedious procedure, but the vital stain method is simple and easy. He has applied both in large numbers of the sick and well, and declares that the findings are a reliable index of the erythrocyte-producing power of the bone marrow. The blood is drawn from the finger, 5 drops, directly into the stain. For this he added to 2 c.c. of a 1.5 per cent. solution of potassium oxalate in 0.9 per cent. saline, 10 drops of Unna's polychrome methylene blue. After ten minutes he centrifuged, and in the dry sediment examined the reticulation *(tüpfelung)* of the erythrocytes. In 30 normal persons, from 0.4 to 1.8 per cent. of the erythrocytes were skeined or reticulated. The average in 7 cases was 4.8 per cent. in the blood from the umbilical vein. In 2 cases of myxedema with anemia after thyroid treatment, the figures were 4.6 and 4.2 per cent. In the few tuberculous subjects examined it was normal in 2.8 per cent. In some cases of septicemia the figure averaged 12 per cent. In some cases of chloro-anemia, the improvement was reflected in the rise from 0.8 or 0.9 to 2.4 and 11.3 under three or four weeks of treatment. The figures in a case of hemolytic jaundice were 1.8; nine days after splenectomy, 5.7 and at the fiftieth day, 14.8 per cent. In some cases of pernicious anemia treated by transfusion of blood, the figure had risen in five or seven weeks from 2 to 7.5 per cent. and from 7.2 to 8.6 per cent. The oxygen consumption and the vital *tüpfelung* do not alway fluctuate parallel.

Deutsche Zeitschrift für Chirurgie, Leipzig

January, 1922, **168**, No. 1-2

*Supernumerary Testicles. A. Haas.—p. 1.
*Bone Changes in Neurofibromatosis. E. Stahnke.—p. 6.
*Intrapelvic Protrusion of Acetabulum. J. B. Waller.—p. 19.
*Luxation with Tuberculous Hip Joint Disease. A. Lehrnbecher.—p. 37.
*Sliding Hernia. R. Demel.—p. 51.
Hexamethylenamin Intravenously in Septicemia. Buzello.—p. 61.
*Operation for Femoral Hernia. K. Reschke.—p. 91.
Anilin Dyes in Surgery. E. Hoffmann.—p. 101.
*Bile Peritonitis. F. Wagner.—p. 116.
Tendon Plastics for the Thumb. J. Nicolaysen.—p. 133.
Lengthening the Long Bones in Arthritis Deformans in the Young. K. Reschke.—p. 136.

Supernumerary Testicles.—Haas reports that in operating on a boy of 9 for bilateral inguinal hernia and undescended testicles, he found a supernumerary testicle on the left side. With one exception, the supernumerary testicle was on the left side in all the six similar cases he has found on record.

Bone Changes with Neurofibromatosis.—Stahnke is convinced that the bone changes found with neurofibromatosis are not a mere casual coincidence but form parts of the actual clinical picture. They imprint a congenital stamp on it besides, demonstrating that neurofibromatosis must be accepted as a malformation in the wider sense.

Intrapelvic Protrusion of Acetabulum.—Waller has been able to find only fifteen cases of the Otto-Chrobak pelvis on

record, and adds another to the list. The protrusion is usually fully developed by the age of 20, but causes little or no disturbance under ordinary conditions. In his case the protrusion was bilateral, but a fall had ruptured the acetabulum on one side. The acetabulum on the other side was merely exceptionally deep, the protruding pelvic surface smooth. The abnormal protrusion exposes it to injury from trauma. The Otto-Chrobak pelvis is thus primarily merely an unusually deep acetabulum; the destructive process is secondary.

Spontaneous Luxation of Tuberculous Hip Joint.—The luxation was bilateral in the boy of 7, and osteomyelitis had been diagnosed until tubercle bacilli were discovered in the pus from a deep abscess in the thigh. By a radical operation on each hip joint, removing the sequesters left from the tuberculous coxitis and all other morbid tissue, the florid process was arrested. The right hip joint is entirely stiff, but the left joint can be moved a little. The result is regarded as satisfactory, considering the severity of the case.

Sliding Hernia.—Demel says that about 1.2 per cent. of all inguinal and femoral hernias are of the sliding hernia type. Resection of the large intestine is seldom necessary. This was responsible for the mortality of 2.8 per cent. of the total 501 cases he has compiled. A typical case is described.

Femoral Hernia.—Reschke has been reexamining 170 patients with femoral hernia treated by Kummer's method some years ago, and all were permanently cured except 3.5 per cent. in whom the hernia had recurred. In 35 and in 29 cases treated by other methods, recurrence followed in 28.5 and 13.8 per cent. There have been 560 cases of femoral hernia at the Greifswald surgical clinic in twenty years, and there was incarceration in 322 of them. The conditions were gravest in the cases in which taxis had been attempted. With the Kummer technic, a U silk suture is taken, the needle passed first through the muscles above or below the inguinal canal, and in front of the peritoneum out through Cooper's ligament, along the bone and out through the femoral canal. It is threaded with silk and drawn back, and is then passed again through the tissues to emerge in Cooper's ligament close to Gimbernat's ligament, and is threaded with the other end of the silk. When the ends are tied, the entire femoral canal is firmly closed by the abdominal tissue thus pulled over it. Fine silk doubled is preferable.

Bile Peritonitis.—One of Wagner's three cases sustains the view that perforation of the noninfected gallbladder runs a benign course. Actual diapedesis is rare, but undoubtedly occurs. Several factors are involved, including obstruction of the cystic duct, pathologic conditions in the gallbladder wall, and possibly some pancreatic juice action.

Monatsschrift für Kinderheilkunde, Leipzig

December, 1921, **22**, No. 3

Panniculus Adiposus in Relation to the Nutritional Condition of Children. G. Kuntze.—p. 449.
*The Spleen in Injections of Epinephrin and Sodium Nucleinate. H. Beumer and H. Hellwig.—p. 457.
Atypical Pertussis and Bacteriologic Diagnosis. Thiemann.—p. 471.
Epidemic Encephalitis in Children. M. Bardach.—p. 475.
*The Chvostek Sign in Schoolchildren. A. Schultze.—p. 484.
*A Study on Antibodies in Human Milk. G. Petényi.—p. 486.

Significance of the Spleen in Injection of Epinephrin and Sodium Nucleinate.—Beumer and Hellwig report that extirpation of the spleen was found to have no effect on the lymphocytosis and polynuclear leukocytosis which follow injection of epinephrin or of sodium nucleinate in rabbits.

Significance of the Chvostek Sign in Schoolchildren.—Schultze examined 1,648 boys and girls in two urban and two rural schools, and the Chvostek sign was found in 8.4 per cent. Of the 139 positive Chvostek cases, 127 were examined with respect to electric hyperexcitability, which was found to exist in 58 per cent. By examining into the histories of those that did not present electric hyperexcitability, from the standpoint of early convulsions in the subjects themselves or in other members of the family, he found that more than two thirds of the schoolchildren with a positive Chvostek sign could be regarded as spasmophilic, and two thirds of them were underdeveloped physically. From the mental and intellectual point of view there were only 39 children out of 178 that could be regarded as absolutely normal. Mechanical hyperexcitability was not so frequent in the girls as in the boys. He found among 40 of the mothers a positive Chvostek sign in 16.

Measles Antibodies in Human Milk.—Petényi refers to the generally accepted view that young infants are not susceptible to measles infection. According to Pirquet this is due to an immunity inherited from the mother. This immunity, Pirquet holds, is so intense during the first two months after birth that no measles infection ever occurs; after that, during the first year, the immunity is sufficient to protect some infants while in others the infection appears, but in attenuated form. Pirquet's chief argument that the immunity of infants is inherited from the mother lies in the fact that during the epidemic, in 1882, in Iceland, where, for a previous period of thirty-six years, there had been no cases of measles, young infants showed no immunity but took the disease as readily as older children and adults. Schultze had frequently observed that in a ward in which there were both breast-fed and artificially fed infants, after a case of measles, all those that were artificially fed took the disease while the breast-fed infants escaped. He tried, therefore, this experiment: After a measles case had developed in a ward, and many infants had been exposed, he gave the older, artificially fed infants, that had never had measles, subcutaneous injections of human milk or colostrum. The 4 breast-fed infants all escaped infection; of the 10 artificially fed infants, only 3 took the disease, although they were all repeatedly exposed. He holds that these observations show that in human milk (or colostrum) there is a substance which, if injected parenterally, will prevent the development of a measles infection. He thinks that his experiment might have been even more successful if he had used larger quantities.

Therapeutische Halbmonatshefte, Berlin

Nov. 15, 1921, **35**, No. 22

Digitalis Preparations. W. Wiechowski.—p. 681.
Treatment of Meningeal Syphilis. W. Gennerich.—p. 690.
Effect of Intravenous Injections of Glucose on Cardiac Activity and Diuresis. S. Isaac.—p. 698.
Need of Moderate-Priced Sanatoriums. W. Unger.—p. 702.

Dec. 15, 1921, **35**, No. 24

Calcium in Cardiac Therapy. G. Singer.—p. 758.
*War Diet as a Cause of Disease. E. Reiss.—p. 765.
*Therapy and Prophylaxis of Puerperal Fever. Dietrich.—p. 772.
Treatment of Polycythemia. J. Strasburger.—p. 777.

The Low Stimulating Power of the War Diet as a Cause of Disease.—Reiss describes at considerable length the pathologic manifestations he found in the gastro-intestinal tract, the blood, the blood vessels and the heart of persons who, during the war, were inadequately nourished, many of which symptoms, such as gastric hypacidity, for example, could not, he argues, have been due to a lack of calories or even of vitamins but most likely were due to a third peculiarity of the war diet; namely, its low stimulating power, which is closely connected with its unpalatability. He admits the possibility that certain vitamins whose action is as yet unknown were responsible for these manifestations, but he is more inclined to ascribe them to the lack of the normal psychic and reflex actions that are brought about by a varied, healthful diet.

Therapy and Prophylaxis of Puerperal Fever.—Dietrich rejoices over the stupendous reduction in the morbidity and mortality percentage of puerperal fever in recent decades, but holds that with a 1 per cent. morbidity and a 0.3 per cent. mortality for the German empire (20,000 cases and 6,000 deaths each year, approximately) it behooves us to exercise even greater care in disinfecting the hands, the wearing of gloves, and the use of all other precautions, in order that the morbidity and mortality may be still further reduced.

Wiener klinische Wochenschrift, Vienna

Jan. 19, 1922, **35**, No. 3

Internal Antisepsis. L. Hess and R. Reitler.—p. 49.
*Direct Massage of the Heart. Amreich.—p. 50.
Demonstration of Occult Blood and Tubercle Bacilli in Stools. W. Loll.—p. 51.

Nature of the Bacteriophagic Virus. T. Watanabe.—p. 53.
Modified Method of Injecting Tuberculin in Tuberculous Disease of the Skin. M. Strassberg.—p. 54.
Leukocyte Count in Epidemic Encephalitis. R. Huss.—p. 55.
Epidemic Tertian Malaria in Russian Prison Camps. A. Belai.—p. 57.
Length of Intestine and Sitting Height. B. Schick.—p. 58.
Treatment of Bilharziasis with Emetin. M. Mayer.—p. 59. Reply. Tsykalas.—p. 60.

Direct Massage of the Heart.—In Amreich's case, the collapse had occurred under sacral anesthesia. The operation on the adnexa of the young woman had only been begun when the heart stopped beating. No effect was apparent from six minutes of artificial respiration, oxygen, injection of epinephrin into and massage of the heart through the skin, so the heart was then exposed by Kocher's method. This took about three minutes, and then, with four fingers introduced back of the heart, it was pressed gently and rhythmically against the back of the sternum. After six minutes of this, and another injection of epinephrin into the left ventricle, the heart began to pulsate vigorously, 120 times a minute. This kept up for three quarters of an hour, but then the heart action grew weak. There had been no spontaneous respiration at any time and no recovery of consciousness. The direct massage was applied again, and the radial pulse again became perceptible. As there was no sign of spontaneous revival of the heart action after fifteen minutes, he abandoned the attempt. Necropsy showed that the anterior flap of the mitral valve had been torn from its root. He warns that forcible massage, trying to pump the blood along, is not the aim of this direct massage. It is only for a gentle stimulus to start spontaneous contractions.

Jan. 26, 1922, **35**, No. 4

The Practical Significance of the Habitus, and the Revival of Humoral Pathology as a Therapeutic Deduction from the Constitution Theory. B. Aschner.—p. 73. Conc'n No. 5, p. 107.
Clinical Aspects of Asthenic Pneumonia in Infants. Nobel.—p. 79.
Technic of the Sachs-Georgi Test. N. Frank.—p. 81.
Rhythmic Closure of the Pylorus. T. Bársony.—p. 82.
Clinical Use of the Ambard-Hallion Ureometer. W. Nyiri.—p. 83.
Technic of Perineural Injections in Sciatica. Grünbaum.—p. 84.

Zentralblatt für Chirurgie, Leipzig

Dec. 10, 1922, **48**, No. 49

No Sensory Fibers in Anterior Spinal Roots. Meyer.—p. 1790.
A Case of Bilateral Harelip. G. Mertens.—p. 1794.
Hemostasis in Bergmann Hydrocele Operation. Jungbluth.—p. 1795.
Fascia Implant to Correct Respiratory Sinking in of Nasal Wings. Boecker.—p. 1796.
So-Called Bayonet Forceps. G. Schmidt.—p. 1797.
Local Anesthesia in Operations on Neck. L. Drüner.—p. 1798.

Dec. 17, 1921, **48**, No. 50

Agglutination of Own Blood Corpuscles as Test for Active Tuberculosis. H. Kümmell, Jr.—p. 1822.
*Locating Brain Tumors in Trephining Operation. Meyer.—p. 1824.
*Determination of Electrical Resistance in Brain. Schlüter.—p. 1827.
Technic of Gastric Operations. O. Orth.—p. 1828.
*Furunculosis of Axilla. L. Heidenhain.—p. 1831.

Locating of Brain Tumors After Trephining by Determination of Electrical Resistance.—Meyer having found palpation, puncture and percussion inadequate for the localization of brain tumors, decided to investigate the relative electrical conductivity of normal brain tissue and brain tumors, with the idea that possibly the brain, being richer in fat, would show greater electrical resistance than a brain tumor. In collaboration with Dr. Schlüter, he made researches on fresh brain and brain tumor material from a cadaver, and discovered that there is a very marked difference in the electrical conductivity of the normal brain and of brain tumors. He found that the cerebrum at a given distance and with electrodes of a given size showed a resistance of about 550 and the cerebellum a resistance of about 650 ohms, whereas the brain tumor (a gliosarcoma) had an electrical resistance of only 200 ohms; cerebral fluid and physiologic sodium chlorid solution, a resistance of 35 ohms, and the blood, of 150 ohms. Experiments on a living cat brain revealed the same differences that had been found in the human cadaver. The insertion of the electrode into the living cat brain caused no injuries. The first trial on a human subject was made, June 5, 1921, since which time no further brain tumor cases have come to operation, but, since the results of the single trial were so favorable, he concluded to publish this preliminary report. Enderlen performed the trephining operation, and, after laying bare the dura at the site designated by the neurologist, punctured the supposed tumor. In a few seconds Schlüter measured the electrical resistance of the tumor, which proved to be 260 ohms, whereas the resistance of the brain was 660 ohms, thus disclosing the same marked differences in the living human brain that had been previously found in the cadaver. After the gliosarcoma had been removed, its electrical resistance was the same as when in the living body. No disturbances were observed as the result of the determination of the electrical resistance in the living subject.

Apparatus for the Determination of the Electrical Resistance in the Brain.—Schlüter describes in detail the apparatus employed in determining the relative electrical resistance of the normal brain and a brain tumor, an account of which is given in the preceding abstract.

Roentgen-Ray Treatment of Furunculosis of the Axilla.—Heidenhain refers to the statement of Brunzel and Bockenheimer that in resistant cases of furunculosis of the axilla they extirpate all the diseased skin and treat the defect plastically. He does not think that so radical intervention is necessary. During the last six years he has treated all cases of furunculosis of the axilla, even though severe, with roentgen irradiation. Overdosage must be carefully avoided. Barely a third of an ordinary erythema dose is sufficient. He uses a 3 mm. aluminum filter and irradiates a large field. If there are any abscesses in the area, they must be opened. The furunculosis has usually healed at the end of a week. He then gives the same dose as at first. Recovery has always resulted and there have been no recurrences.

Zentralblatt für Gynäkologie, Leipzig

Dec. 10, 1921, **45**, No. 49

Nomenclature of Kidney Affections in Pregnancy. Kautsky.—p. 1765.
Pathologic and Clinical Aspects of Kidney Affections in Pregnancy. V. Hiess and M. Beckman.—p. 1773.
Temporary Resection of the Pubic Symphysis in Extirpation of Cancer of the Urethra. P. Graf.—p. 1777.
*Prophylaxis of Postoperative Retention of Urine. E. Vogt.—p. 1781.
Operative Treatment for Incontinence of Urine. Hisgen.—p. 1783.
Cystoscopy in an Air-Filled Bladder. G. Linzenmeier.—p. 1786.
Atresia Vaginae Puerperalis; Dilatatio Urethrae e Coitu. C. Stanca.—p. 1788.

Dec. 17, 1921, **45**, No. 50

More Light on the Eclampsia Problem. J. Hofbauer.—p. 1797.
Etiology and Treatment of Eclampsia. W. Liepmann.—p. 1810.
Effect of Diet on Eclampsia as Revealed by the Statistics of Baden During and After the War. W. Gessner.—p. 1814.
Peculiar Case of Complete Laceration of Perineum. Wiegels.—p. 1818.

Intravenous Injections of Hexamethylenamin to Combat Postoperative Retention of Urine.—Vogt has found intravenous injections of hexamethylenamin, 5 c.c. of a 40 per cent. solution given the evening of the day of operation, a simple, harmless and certain method of combating dysuria and retention of urine, following operations on the genito-urinary apparatus; also to ward off postoperative cystitis or cystopyelitis. There have been no failures out of more than 200 cases, and there were no unpleasant after-effects.

Zentralblatt für innere Medizin, Leipzig

Dec. 10, 1921, **42**, No. 49

*Stuttering in Relation to Asthma. W. Sternberg.—p. 946.

Dec. 17, 1921, **42**, No. 50

Colloid Content of Human Urine. Pribram and Eigenberger.—p. 961.

Stuttering in Relation to Asthma.—Sternberg states that clinically the functional disturbances of the stutterer when speaking and of the asthma patient when breathing show much similarity. In both cases the functional disturbances appear in the expiratory phase, in acute attacks in the stutterer and in less acute in the asthma patient, so that it almost seems as if the cumulative effect of some exciting cause were at work. There are mechanical, physiologic difficulties that confront the stutterer when he endeavors to speak during the expiratory phase, and the asthmatic patient must also overcome certain mechanical difficulties during expiration. Certain forms of stuttering, in fact, may be regarded as incomplete types of asthma.

Mededeel. v. d. Burg. Geneesk. Dienst, Java

1921, No. 3. Parallel English-Dutch Edition

*Epidemiologic Observations on Plague. P. C. Flu.—p. 139.
Survival of Typhoid Germs in Septic Tanks. P. C. Flu.—p. 179.
Autopurification of Water in Large Reservoirs Exposed to Sun. P. C. Flu.—p. 189.
Duration of Life of Cholera Vibriones and Typhoid Bacteria in Sea Water. P. C. Flu.—p. 207.
*Filariasis in Java. P. C. Flu.—p. 221.
Chemical Deratization. J. van Slobten.—p. 255.

Plague.—Flu's extensive experiments on measures for prevention of plague demonstrated that the rat fleas escape the action of sulphur by burying themselves in the sand or otherwise, but the sulphur drives the rats out of their hiding places and, if they are unable to escape, they die from the fumes. He urges that warehouses should be built so that in case any one part becomes infected, this can be disinfected.

Filariasis in Java.—Flu's study was restricted to the native populace of the town of Weltevreden.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Jan. 21, 1922, **1**, No. 3

*Consequences of Ligation of Vas Deferens. T. J. de Vrieze.—p. 266.
*The Voice After Resection of Vocal Cord. H. Burger.—p. 282.
Removal of Foreign Bodies from Trachea. H. J. L. Struycken.—p. 289.
*Cod Liver Oil as Vehicle for Benzyl Benzoate. W. S. Stekhoven.—p. 291.
*Meningococcus Septicemia. P. H. Kramer.—p. 293.
Sympathetic Ophthalmia as Industrial Accident. D. N. van Gelderen.—p. 298.

Consequences of Ligation of the Vas Deferens.—De Vrieze reports what he thinks is the first necropsy after ligation of the vasa deferentia since Steinach's publications in this line. His patient was a man of 63 with hypertrophied prostate and hydronephrosis, with urosepsis, fatal three weeks after the vasectomy. The hydronephrosis had not been diagnosed during life, the symptoms having been ascribed to assumed cancer at the hepatic flexure. Treatment therefore had been on an erroneous basis. The vasectomy was done as a preliminary to prostatectomy, but no influence on the prostate had been noted. There did not seem to be any consequences from the vasectomy in any way, good or bad, confirming the harmlessness of the measure. The endocrine organs seemed to be intact. There was no increase in the interstitial cells but the vas epididymidis had enlarged after the vasectomy. As there probably had been no spermatogenesis in this case for some time, this enlargement of the epididymis suggests that the testicle still has some secretion to pass along, even when there are no spermatozoa. The case is illustrated.

The Voice After Resection of a Vocal Cord.—In three of Burger's four cases the tissues grew to form a new vocal cord. This approximated normal the more closely, the more radical the operation on the side wall of the throat, thus giving Nature a free rein. The diagnosis of malignant tumor was beyond question, and the operation was done through a slit in the thyroid cartilage. No attempt was made to suture this afterward. The voice is good in all but one who still is hoarse. The voice is very much better than in other cases in which merely the growth itself was resected and the rest of the vocal cord left. The repair after this is much less perfect. In one of his cases the repair was so perfect that in examining with the laryngoscope a year later, there was some doubt as to the operated side.

Vehicle for Benzyl Benzoate.—Stekhoven calls attention to the advantages of cod liver oil as a solvent for benzyl benzoate, which, he remarks, was the fashionable drug in 1921.

Meningococcus Septicemia.—In the case reported by Kramer, the meningococcus septicemia had dragged along for seven weeks with fever, eruptions, purpura and multiple arthritis, before meningitis developed. The young man finally recovered after a nearly four months' course of the infection.

Jan. 28, 1922, **1**, No. 4

*Treatment of Acute Infectious Processes. A. van Balen.—p. 362.
*Rat Fleas and the Plague in Europe. B. Hylkema.—p. 375.
*Eruptive Fever with Unusual Characteristics in Children. W. Naessens.—p. 393.
*Osteomyelitis in Foot and Clavicle. W. C. van der Linden.—p. 396.
Case of Barbital Poisoning. J. W. M. Indemans.—p. 397.

Local Venesection in Treatment of Acute Inflammatory Processes.—Van Balen quotes Donders' saying, "Woe to the therapy that is based on anything but direct experience." He argues that direct experience has confirmed the advantages of drawing blood from an acute infectious process, and discusses the reasons why venesection has been so neglected in the last fifty years. He ascribes the benefit from Bier's suction glasses mainly to the blood which they aspirate from the inflamed tissues. A number of cases of acute inflammatory processes are described in which pain was relieved at once for several hours, and resorption and healing promoted by an incision near by, releasing blood, or by the suction glass. In a case of very painful peritonsillitis with difficulty in swallowing, he aspirated blood from the skin below the jaw, relieving the symptoms materially in ten minutes, this effect keeping up for four hours. Acute edema of the lids subsided under local blood letting as also a tendon sheath abscess on a finger, after blood had been drawn from the palm. The benefit from the local blood letting was particularly striking in three cases of mastitis, and in cases of furuncles in the neck, lymphangitis. It is remarkable, he adds in conclusion, that the advantages of local blood letting in every acute infectious process have not been recognized hitherto. Only by going back to the literature of a hundred years ago do we find it advocated in treatment of congestions and inflammations. Venesection was applied then to excess, and this abuse of it led to its practically complete banishment from minor surgery. He thus does not hesitate to entitle his article "A New Treatment for Acute Infectious Processes."

Plague in Europe and the Rat Flea.—Hylkema warns that in Europe rats come in contact with human beings less than in the tropics, and consequently the fight must be against the infected fleas rather than against the rats. Plague in Europe is more a man-flea-man disease, after the first cases. Human cases of plague should be regarded as a warning of the presence of infected fleas. The main thing is to seek out and recognize the cases early; this is at least as important as seeking for infected rats on ships and in harbors as a sign of the importation of the disease. To prevent the spreading of the disease by the fleas requires measures beyond merely deratization.

Eruptive Fever with Unusual Characteristics in Children.—Naessens reports three cases in young children which seemed to be identical with those described by Levy, Veeder and Hempelmann in THE JOURNAL, Dec. 3, 1921, p. 1785 and p. 1787.

Osteomyelitis with Unusual Location.—In the first of Linden's two cases the acute primary osteomyelitis was in the scaphoid bone of the foot, which was cast off as a sequester. In the other, it was in the sternoclavicular articulation.

Acta Medica Scandinavica, Stockholm

1921, Supplement 2

The Elasticity of the Vessel Walls and Means for Testing It. O. P. Reuterwall.—pp. 1-176.

Finska Läkaresällskapets Handlingar, Helsingfors

January-February, 1922, **64**, No. 1-2

*Internal Secretions in Undernourishment. T. W. Tallqvist.—p. 1.
*Pathogenesis of Arteriosclerosis. W. Kerppola.—p. 18.
*Phlegmonous Gastritis. T. Sandelin.—p. 37.
*Colloidal Gold Reaction in Neurosyphilis. G. Jansson.—p. 44.
*Paget's Disease of Nipple. A. Cedercreutz.—p. 58.
Backward Subluxation of Cataract. V. Grönholm.—p. 64.
*Sarcoma of Skull. H. Bardy.—p. 68.

The Internal Secretions During Undernourishment.—Tallqvist discusses the tendency to edema from undernourishment, saying that it was observed during the Napoleon campaign in Russia, and the Boer War. It first appeared in Finland in 1918, and was quite prevalent in 1919 in the cities, especially in the prisons, but then it disappeared as food conditions improved. On the other hand, exophthalmic goiter and diabetes mellitus became very rare during the war undernourishment period. Both of these, he recalls, have a typical pathologic hormone basis. Undernourishment reduces production of hormones. The organ extract business

in Germany had to be abandoned during the war, as the underfed animals could not supply any epinephrin or other active gland principle. The endocrine glands seem to be especially sensitive to underfeeding. The diseases which are traceable to excessive endocrine functioning became comparatively rare during the undernourishment period of the war. His charts show a remarkable parallelism between the declining incidence of exophthalmic goiter and diabetes in his own service and private practice, while gastric achylia ran up to a high peak during the undernourished years. There is no doubt that both constitutional and occasional factors cooperate in these two diseases, but no one heretofore, he remarks, has appreciated the importance of relative overnourishment as a factor in exophthalmic goiter, although this has long been recognized in diabetes. The compulsory undernourishment of the war averted certain factors, and thus preserved the constitutionally predisposed from the development of the disease.

Arteriosclerosis.—Kerppola's article is a special study of the pathologic histology, etiology and pathogenesis of arteriosclerosis, and its occurrence with syphilitic arteritis.

Phlegmonous Gastritis.—In the first of Sandelin's two cases, both microscopic cancer and phlegmonous gastritis were found in the stomach of the woman of 57. Streptococci were cultivated in pure cultures from the stomach wall. In the other case the diagnosis had been diffuse peritonitis of unknown origin in the previously healthy woman of 44. She died the eighth day from the first symptoms. An ulcerating carcinoma was discovered in seven of the 215 cases of phlegmonous gastritis on record. The onset is very sudden and stormy, and vomiting is a constant symptom, as also intense abdominal pains. The clinical picture is like that of a perforated ulcer. Peritonitis accompanied the gastritis in 65 per cent. of the cases. Death has been known a few hours after the onset; in other cases the course may last for two weeks. He resected the stomach in his first case, and there are a very few instances of recovery under operative measures. In these cases there were circumscribed abscesses which could be excised. The possibility of this justifies intervention, as the mortality to date of phlegmonous gastritis is 92 per cent.

The Colloidal Gold Reaction in the Spinal Fluid.—Jansson's conclusion from his extensive experience with this test is that when it is negative we can confidently exclude neurosyphilis from consideration.

Some Dermatologic Notes.—Cedercreutz gives an illustrated description of a case of Duhring's herpetiform dermatitis; one of severe bromoderma of the legs, and 2 of Paget's disease of the nipple involving the lower abdomen as well. Satani had compiled in 1920 over thirty extramammary cases. Treatment must be operative, as a rule, although the extensive lesions in one of his cases healed under local measures alone. Some insist that if the affection heals, the diagnosis had been incorrect, but Darier declares that any soothing dressing will relieve the inflammation, and may induce superficial healing.

Sarcoma of the Skull.—A complete cure seems to have followed the removal of a sarcoma on the frontal-parietal bones of the woman of 57. The dura was adherent and was resected with it, and the gap closed with a plastic operation. The tumor was as large as the woman's fist, but there had been no brain symptoms. There is still a minute fistula.

Hospitalstidende, Copenhagen

Jan. 18, 1922, **65**, No. 3

*Plastic Operation on Postoperative Hernia. O. Ramlau-Hansen.—p. 34.
Present Status of Phototherapy and Heliotherapy in Pulmonary Tuberculosis. Holten.—p. 40. Conc'n.

Plastic Correction of Ventral Hernia.—Ramlau-Hansen refers to postoperative hernia, reporting a case of extensive ventral hernia after suppurating appendicitis in a young man. He mobilized the sartorius muscle, sutured its point of attachment to the sheath of the rectus, and spread the proximal portion over the hernial opening, after reducing this to the smallest size possible.

Norsk Magazin for Lægevidenskaben, Christiania

March, 1922, **83**, No. 3

*Embolic Gangrene of the Extremities. P. Bull.—p. 137.
*Sources of Embolism. P. Bull.—p. 171.
*Acute Tuberculous Peritonitis. E. Dahl.—p. 192.

Embolism and Embolic Gangrene.—A similar article by Bull was summarized in THE JOURNAL, March 18, 1922, p. 855. He had to amputate both thighs in less than a year in one of the eight cases he reports, but the man is in comparatively good health and has married since.

Acute Tuberculous Peritonitis.—Dahl relates that the onset was acute in 8 of the 28 cases of tuberculous peritonitis at the Rikshospital in the last fifteen years. The acute symptoms can be explained by the softening of some tuberculous gland, thus suddenly flooding the peritoneum with infectious material. He operated in all these cases, and a complete cure was realized in 3, confirmed by reexamination 15, 8 and 8 years later. One died the second month; the others are in good condition. The laparotomy had been done on the diagnosis of appendicitis in nearly all these cases. Whether to ascribe the favorable outcome to the laparotomy or whether the patients would have recovered spontaneously it is impossible to say, but the chances, he thinks, are in favor of the laparotomy.

Ugeskrift for Læger, Copenhagen

Feb. 9, 1920, **84**, No. 6

*The Capillary Blood. C. Lundsgaard and E. Møller.—p. 167.
Protecting Devices in Radiologic Clinics. O. Wissing.—p. 177.
Morphin Poisoning of Five Weeks' Infant. V. Erlendsson.—p. 190.

Oxygen Content of Capillary Blood.—The research reported confirms the assumption that the oxygen content of the blood in the capillaries is the same as in the arterial blood. During repose and during exercise, in the sick and in the well, the oxygen content of the arterial blood and the capillary blood was found practically the same in all the persons tested. The same similarity is probably the rule for the other constituents of arterial and capillary blood.

Feb. 16, 1922, **84**, No. 7

*Standardization of Hemoglobinometry. H. C. Gram.—p. 215.
*Alimentary Glycosuria. J. E. Holst.—p. 224.
Metal Nipple Shields. E. Hauch.—p. 234.

Standardization of Hemoglobinometer Findings.—Gram remarks that in no other point of clinical medicine is there so much confusion in terms as in the estimation of the hemoglobin in the blood. It is expressed by a percentage of the normal, but there is no uniformity in the estimation of the normal. The sexes vary by 10 per cent. Colorimeters can be standardized by taking the average of a large number of healthy persons, or by comparing with a certain standard instrument, but the best method is to ascertain the iron content of the hemoglobin, its absorption of light in the spectrophotometer, and its capacity for taking up oxygen. The latter seems to be most promising, he says, especially by van Slyke's technic, adding that the ferricyanid method gives too low values. An oxygen capacity of 18.5 per cent. can be regarded as corresponding to 100 per cent. hemoglobin and about 5 millions of normal erythrocytes, which gives the color index as 1 and the cell volume as 43 per cent.

Alimentary Glycosuria.—Holst found that glycosuria developed after ingestion of a certain amount of sugar in 31 of 159 persons all free from diabetes, including 14 healthy persons. In 2 of the subjects the glycosuria reached 1 per cent. Salicylic medication and fever did not seem to modify the response. The 31 positive findings were in 6 of the 20 cases with lung or pleural affections; 8 in the 28 rheumatism, sciatica and lumbago cases; 4 in the 16 brain or nervous affections; 1 each in the 16 dyspepsia cases, 17 of acute infectious disease, 2 of gallstones, 3 of goiter, and once in the one case of eczema, fracture, epidemic encephalitis or syphilis in a pregnant woman, and in 2 of the 14 healthy subjects. Gynecologic and surgical tuberculosis cases, heart disease, sepsis and pernicious anemia gave constantly negative findings. That the carbohydrate metabolism is defective is evident from the rise in the blood sugar content which accompanied the glycosuria. In 2 of the cases the power of assimilating sugar was as low as we see it in diabetes.

THE ST. LOUIS SESSION

AMERICAN MEDICAL ASSOCIATION, SEVENTY-THIRD ANNUAL SESSION
ST. LOUIS, MAY 22-26, 1922

OFFICIAL CALL

TO THE OFFICERS, FELLOWS AND MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION

The seventy-third annual session of the American Medical Association will be held in St. Louis, Mo., May 22-26, 1922.

The House of Delegates will convene at 10 a. m., Monday, May 22. In the House the representation of the various constituent associations for 1922 is as follows:

Alabama	2	New Hampshire	1
Arizona	1	New Jersey	3
Arkansas	2	New Mexico	1
California	4	New York	11
Colorado	2	North Carolina	2
Connecticut	2	North Dakota	1
Delaware	1	Ohio	6
District of Columbia	1	Oklahoma	2
Florida	1	Oregon	1
Georgia	2	Pennsylvania	9
Idaho	1	Rhode Island	1
Illinois	9	South Carolina	1
Indiana	3	South Dakota	1
Iowa	3	Tennessee	3
Kansas	2	Texas	5
Kentucky	3	Utah	1
Louisiana	2	Vermont	1
Maine	1	Virginia	3
Maryland	2	Washington	2
Massachusetts	5	West Virginia	2
Michigan	4	Wisconsin	3
Minnesota	2	Wyoming	1
Mississippi	2	Alaska	1
Missouri	4	Canal Zone	1
Montana	1	Hawaii	1
Nebraska	2	Philippine Islands	1
Nevada	1	Porto Rico	1

The fifteen scientific sections of the American Medical Association, the Medical Department of the Army, the Medical Corps of the Navy and the Public Health Service are entitled to one delegate each.

The Scientific Assembly of the Association will open with the general meeting to be held at 8:30 p. m., Tuesday, May 23. The Sections will meet Wednesday, Thursday, and Friday, May 24, 25 and 26, as follows:

CONVENING AT 9 A. M. THE SECTIONS ON

- Surgery, General and Abdominal.
- Ophthalmology.
- Diseases of Children.
- Pharmacology and Therapeutics.
- Nervous and Mental Diseases.
- Dermatology and Syphilology.
- Preventive Medicine and Public Health.
- Miscellaneous Topics.

CONVENING AT 2 P. M. THE SECTIONS ON

- Practice of Medicine.
- Obstetrics, Gynecology and Abdominal Surgery.
- Laryngology, Otology and Rhinology.
- Pathology and Physiology.
- Stomatology.
- Urology.
- Orthopedic Surgery.
- Gastro-Enterology and Proctology.

The Registration Department will be open from 8:30 a. m. until 5:30 p. m., on Monday, Tuesday, Wednesday and Thursday, May 22, 23, 24 and 25, and from 8:30 a. m. to 12 noon, on Friday, May 26.

HUBERT WORK, President.

FREDERICK C. WARNSHUIS, Speaker, House of Delegates.
ALEXANDER R. CRAIG, Secretary.

MEMBERS OF THE HOUSE OF DELEGATES

A Preliminary Roster of the Legislative Body of the American Medical Association

The list of members of the House of Delegates for the session is incomplete, as a number of the state associations are yet to hold their meetings at which delegates will be elected. The following is a list of the holdover delegates and of the newly elected members (indicated by *) who have reported to THE JOURNAL in time to be included:

STATE DELEGATES

ALABAMA
S. W. Welch, Montgomery.
J. D. Heacock, Birmingham.

ARIZONA
John W. Flinn, Prescott.

ARKANSAS
George S. Brown, Conway
William R. Bathurst, Little Rock.

CALIFORNIA
Albert Soiland, Los Angeles.
H. Bert Ellis, Los Angeles.
John H. Graves, San Francisco.

COLORADO
W. A. Jayne, Denver.
*L. H. McKinnie, Colorado Spgs.

CONNECTICUT
Walter Ralph Steiner, Hartford.
*John Edward Lane, New Haven.

DELAWARE
H. J. Stubbs, Wilmington.

DISTRICT OF COLUMBIA
*Wm. Gerry Morgan, Washington.

FLORIDA
John S. Helms, Tampa.

GEORGIA
W. C. Lyle, Atlanta.

IDAHO

ILLINOIS
J. W. Van Derslice, Oak Park.
C. E. Humiston, Chicago.
R. L. Green, Peoria.
H. P. Beirne, Quincy.

INDIANA
J. Rilus Eastman, Indianapolis.
*Albert E. Bulson, Jr. Fort Wayne.
*George F. Keiper, Lafayette.

IOWA
J. C. Rockafellow, Des Moines.

KANSAS

KENTUCKY
W. W. Richmond, Clinton.
L. S. McMurtry, Louisville.
Irvin Abell, Louisville.

LOUISIANA
W. H. Seemann, New Orleans.

MAINE
*Bertram L. Bryant, Bangor.

MARYLAND
T. S. Cullen, Baltimore.
*Randolph Winslow, Baltimore.

MASSACHUSETTS
H. G. Stetson, Greenfield.
C. E. Mongan, Somerville.
J. F. Burnham, Lawrence.
*F. B. Lund, Boston.
*E. F. Cody, New Bedford.

MICHIGAN
A. W. Hornbogen, Marquette.
Guy L. Connor, Detroit.
J. D. Brook, Grandville.
F. C. Warnshuis, Grand Rapids.

MINNESOTA
W. H. Magie, Duluth.
*J. W. Bell, Minneapolis.

MISSISSIPPI
John W. Barksdale, Winona.

MISSOURI
R. E. Schlueter, St. Louis.
J. Curtis Lyter, St. Louis.

MONTANA
*Creswell T. Pigot, Roundup.

NEBRASKA
A. D. Dunn, Omaha.

NEVADA
*J. LaRue Robinson, Reno.

NEW HAMPSHIRE
*D. E. Sullivan, Concord.

NEW JERSEY
Henry A. Cotton, Trenton.
*Edward Guion, Atlantic City.
*George E. Reading, Woodbury.

NEW MEXICO
H. A. Miller, Clovis.

NEW YORK
James F. Rooney, Albany.
Frederic E. Sondern, New York.
William F. Campbell, Brooklyn.
Grover W. Wende, Buffalo.
Thomas H. Halsted, Syracuse.

NORTH CAROLINA
J. F. Highsmith, Fayetteville.

NORTH DAKOTA
E. A. Pray, Valley City.

OHIO

OKLAHOMA
L. J. Moorman, Oklahoma City.
*J. M. Byrum, Shawnee.

OREGON
Joseph A. Pettit, Portland.

PENNSYLVANIA
C. A. E. Codman, Philadelphia.
John B. McAlister, Harrisburg.
George A. Knowles, Philadelphia.
John D. McLean, Harrisburg.
*Edward B. Heckel, Pittsburgh.
*Walter S. Stewart, Wilkes-Barre.
*William F. Bacon, York.
*Wilmer Krusen, Philadelphia.
*C. C. Cracraft, Claysville.

RHODE ISLAND
Jesse E. Mowry, Providence.

SOUTH CAROLINA
Edgar A. Hines, Seneca.

SOUTH DAKOTA

TENNESSEE

L. A. Yarbrough, Covington.

TEXAS

Holman Taylor, Fort Worth.
M. F. Bledsoe, Port Arthur.
R. L. Ramey, El Paso.

UTAH

S. G. Kahn, Salt Lake City.

VERMONT

*F. T. Kidder, Woodstock.

VIRGINIA

Jos. T. Buxton, Newport News.
*E. G. Williams, Richmond.
*Southgate Leigh, Norfolk.

WASHINGTON

D. E. McGillivray, Port Angeles.

WEST VIRGINIA

Jas. R. Bloss, Huntington.
*Henry P. Linsz, Wheeling.

WISCONSIN

Rock Sleyster, Wauwatosa.
Horace M. Brown, Milwaukee.
*Joseph F. Smith, Wausau.

WYOMING

Earl Whedon, Sheridan.

ALASKA

HAWAII

H. B. Wood, Waialua.

ISTHMIAN CANAL ZONE

PHILIPPINE ISLANDS

PORTO RICO

*Jacinto Avilés, San Juan.

GOVERNMENT SERVICES

United States Army, Joseph F. Siler.

United States Navy, Charles M. Oman.

United States Public Health Service, J. W. Schereschewsky.

DELEGATES FROM THE SECTIONS

PRACTICE OF MEDICINE

Walter L. Bierring, Des Moines.

SURGERY, GENERAL AND ABDOMINAL

Hugh H. Trout, Roanoke, Va.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

George G. Ward, Jr., New York.

OPHTHALMOLOGY

C. D. Wescott, Chicago.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY

Emil Mayer, New York.

DISEASES OF CHILDREN

Isaac A. Abt, Chicago.

PHARMACOLOGY AND THERAPEUTICS

L. G. Rowntree, Rochester, Minn.

PATHOLOGY AND PHYSIOLOGY

D. J. Davis, Chicago.

STOMATOLOGY

E. S. Talbot, Chicago.

NERVOUS AND MENTAL DISEASES

Walter Timme, New York.

DERMATOLOGY

Howard Fox, New York.

PREVENTIVE MEDICINE AND PUBLIC HEALTH

John D. McLean, Harrisburg, Pa.

UROLOGY

Carl L. Wheeler, Lexington, Ky.

ORTHOPEDIC SURGERY

John Ridlon, Chicago.

GASTRO-ENTEROLOGY AND PROCTOLOGY

Alois B. Graham, Indianapolis.

BUSINESS SECTION OF ST. LOUIS

ST. LOUIS—THE CONVENTION CITY

For the fifth time in its history the American Medical Association will hold its annual session in St. Louis.

St. Louis is an old city as western American cities count ages, and it is not new to many Association members, yet one who has not visited the city since 1910 cannot be said to know it. The city has changed much in twelve years. It has changed physically, yet has not sacrificed its charms of age. It has changed its pace, yet clings to the virtues of a more deliberate past. It has intensified business, but business has not overshadowed the arts, nor the sciences, nor recreation. It has placed a higher reward on modernity in all its phases, but it still cherishes most its hospitality—that peculiar hospitality which its old southern families have diffused throughout its citizenry. It remains the friendly city where visitors become guests and there are no strangers.

ADVANTAGES AS A CONVENTION CITY

The city has many advantages for the meeting of large national bodies. It is a geographic center, the city surrounded by the United States. Twenty trunk line railroads contribute to its accessibility. It has a May climate, marred neither by excessive heat of the farther south nor by the uncertainty of the farther north, where raw days creep in unexpectedly at that season. It is a city of regular streets of easy acquaintance. It has adequate, comfortable housing for large numbers. It supplies pleasant meeting auditoriums. But it reckons none of these as comparable with the genuineness of its pleasure in making visitors feel welcome.

St. Louis occupies a water front of nineteen miles on a bend in the Mississippi river, the city extending back from the river in a series of undulating hills for an area of more than sixty square miles. Its population is 780,000, though in adjacent Illinois cities and suburban residence districts in St. Louis County are sufficient people to make the metropolitan population in excess of 1,000,000.

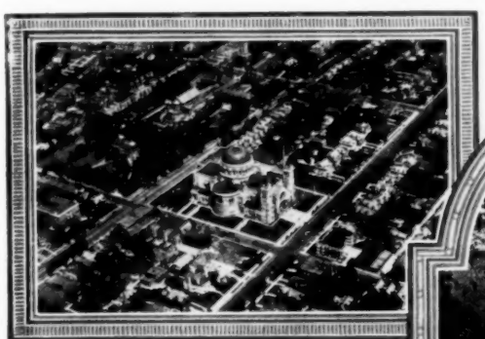
ARRANGEMENT

The city is stratified into sections, disclosing clearly the trend of its advancement. The section immediately adjoining the river levees, once the business section, is now a warehouse district and the business section begins about six blocks away at the crest of the first rise from the water's

edge, at Fourth Street. The present downtown retail business section lies between Fourth and Eighteenth Streets with a width of eight blocks. From Eighteeenth Street west to Grand Avenue, which is Thirty-Sixth Street, lies the old residence section of the city. This has given way to manufacturing plants, and Grand Avenue has become a second business center, while the residences are still farther to the west, extending to what corresponds to Fifty-Fifth Street, where there is still another well-developed business center. Still farther westward lies St. Louis County, the residence section of many of the wealthier citizens, an expanse of rolling hills dotted with beautiful homes. For many miles up and down the river are industrial and residence districts —a great red city of brick.

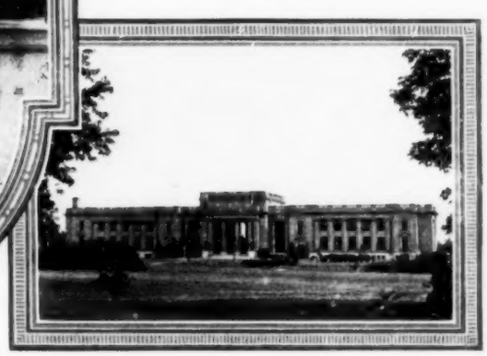
HISTORY

St. Louis was founded in 1763 by Pierre Liguest Laclede, a Frenchman, who ascended the Mississippi River from New Orleans. It has not accumulated an historic scroll so extensive as that of some eastern cities which record the birth of



AEROPLANE VIEW OF NEW CATHOLIC CATHEDRAL AND RESIDENTIAL ENVIRONS.

ART MUSEUM IN FOREST PARK



JEFFERSON MEMORIAL: HOME OF THE MISSOURI HISTORIAL SOCIETY

the nation, but no other western city bears the mark of greater events. And if the mind to which the past presents glamour goes behind the beginnings of the east, it will find that long before New York was new, an American people lifted up within eyeshot of St. Louis a monument surpassing in size the greatest of the Egyptian pyramids. Long before Boston founded a culture, an American people shed civilization in a world that had St. Louis for its capital and which now is shut from sight by prehistoric mists. For at Cahokia, across the Mississippi River from St. Louis, is the great plain of the Mound Builders—a people who lived and disappeared before the beginnings of American chronicles.

The Great Mound of Cahokia, on which the Mound Builders toiled for countless ages, is an earth pyramid 1,080 feet long, 780 feet wide and 104 feet high. In smaller pyramids about it lie the bones of the Mound Builders and their art works, forming the great remaining unsolved archeologic mystery of America. The mounds are within forty minutes' street car ride of St. Louis.

And in the more modern past, St. Louis has left its impression on events of national consequence. It was at St. Louis that General William Clark lived and began, with Lewis, his famous exploration to the Pacific coast. It was in the old St. Louis courthouse, still standing, that the Dred Scott case, greatest of legal struggles centering about slavery, had its beginning, while the cries of the bidders for slaves wafted through the courthouse windows from its steps.

It was in a log cabin in St. Louis that Gen. Ulysses S. Grant gained the pioneering hardihood which enabled him to "fight it out on this line, if it takes all summer." It was here that the Jesuits built their first cathedral in the western wilderness, and pilgrims still pass through its doors, to be recipients of papal favors even now not enjoyed by any other cathedral on the continent.

It was in St. Louis that Mark Twain embarked on the steamboats whose whistles he later sent round the world in the immortal pages of Huckleberry Finn and Tom Sawyer. The same type of steamboat now nudges the St. Louis levee and carries pilgrims over the same waters that the great humorist once sounded and "marked twain." It was to St. Louis that Daniel Boone came to close his life when the Kentucky hills became too populous.

In St. Louis there is as much of historical interest to attract the visitors as there is of modern comforts to make his stay pleasant and enjoyable.

THE RIVER

The physical attribute most commonly associated with St. Louis is the Mississippi River. The Father of Waters begins to take on majesty at St. Louis, chiefly because the Missouri adds its outpouring only a few miles above. The confluence of these two rivers is one of inspirational and scenic splendor, best viewed from a steamer's deck. Big river steamers pass the rivers' meeting each day and go on farther to the mouth of another large river, the Illinois, which Chicago is about to make its outlet to the Gulf of Mexico. The trips on these river steamers also carry the sightseers into the bluff section of the upper river.

The river at St. Louis is spanned by four bridges, two of them especially notable. The Eads Bridge, the first to connect the banks of the Mississippi anywhere along its course, and the Municipal Bridge, which is the longest structure of its kind in the world. The Merchants' Bridge is a purely railroad structure, and the McKinley Bridge is privately owned and devoted to the uses of the McKinley electric system and to vehicular traffic. All of the members of the A. M. A. who come from the east will enter the city over one of these bridges. The Eads Bridge is a double-decked structure, one deck for street car, foot and wagon traffic and the second for railroad trains. The Missouri terminus of the bridge is connected with the Union Passenger Station, more than a mile away, by a tunnel under the business section of the city. The Eads Bridge was ten years in building and cost $10,000,000. Its length is 6,220 feet; including the tunnel, 11,000 feet. It and the Municipal Bridge are well lighted, and form one of the city's interesting night scenes. The Municipal Bridge, which is half a mile south of the Eads Bridge, is two miles long and is the largest double-span ever built. It is free to all forms of vehicular traffic.

WATER SUPPLY

The St. Louis water filtration plant, representing an expenditure of $30,000,000, an interesting project for physicians interested in a pure water supply, is on the river at the

northern extremity of the city. The plant is of recent construction and consequently represents the most modern ideas of serving a city with water.

STEAMBOAT TRAFFIC

The city, for two decades isolated from commercial interest in the river, now is making its way back. It has watched the singing darkies disappear from its levees, and the gangplanks they trod rot from disuse. Now, recognizing a mistake, it has begun to replace the sloping levees with modern docks and to summon back the tooting river whistles so that it can again send its goods seaward. The United States government is operating thirteen towboats and seventy steel barges of 2,000-ton capacity each on the river, the most modern freight operation on any river in the world. So the visitor at this time is not too late to see the vestiges of the romantic old days of the Mississippi but can observe also the new day, which has fully as much romance.

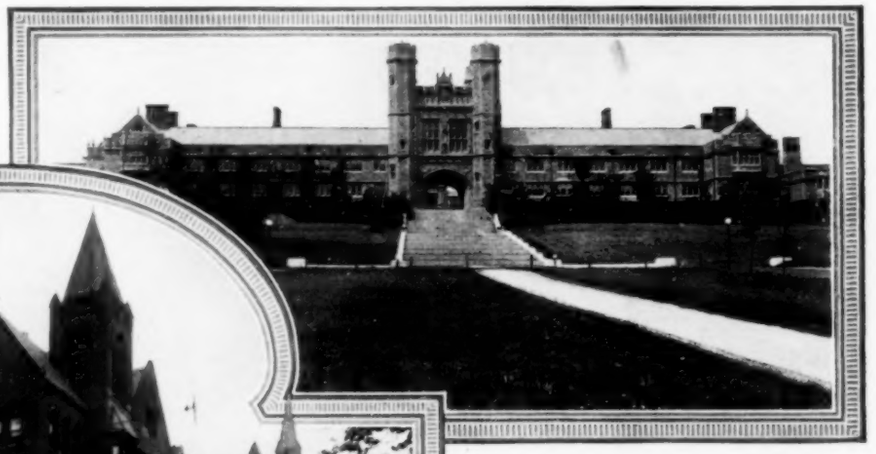
The new boats on the river, contrasted with the picturesque packet type, are low squat bulldogs, each capable of carrying five barges to the sea. These five barges can be loaded with 10,000 tons of freight, which is the equivalent of 300 freight carloads, or ten freight trains as freight trains now are made up. The average carrying capacity of the boats of the U. S. Shipping Board is 10,000 tons. Thus a towload at the St. Louis lock becomes a ship load at New Orleans, and St. Louis may be reckoned the newest seaport of the United States. This operation, unlike any other anywhere in the world by reason of the fact that both boats and barges are new construction of a type created for the river, is one of the most interesting sights of the modern St. Louis harbor. The towboats are tunnel-type, which is to say that screws which have heretofore been used only on the sea have been adapted to use on the Mississippi by encasing them in tunnels, which are recesses in the boat's hull. All the old river boats, and they may still be seen in use on the upper river, are of stern or side-wheel construction.

ST. LOUIS UNIVERSITY

BOTANICAL GARDENS

Another institution for which St. Louis is widely known and which brings visitors from all parts of the world is the Missouri Botanical Garden, the finest in the United States, and in the world second only to the famous Kew gardens in England. The gardens were the gift of Henry Shaw, an Englishman who lived here and who died in 1889. They have an area of 125 acres, and either outdoors or within the large display houses are to be seen most of the interesting plants of the world. For the visit of the members of the American Medical Association, the old Chelsea physic garden is being reproduced.

There are 11,000 species of plants in the garden. The finest collection of orchids in the United States is here. The palm house has 150 species. The economic house has a collection of tropical and subtropical plants of especial economic importance, including those which produce rubber, oils, perfumes, fiber, spices, drugs, woods, dyes, coffee, pepper, tea, jasmine, ginger and many other articles of commerce. The cycad house is arranged like a Japanese garden and displays forty species of cycads, including Kafir bread, a sago palm 300 years old, and countless other tropical evergreens. All forms of ferns are to be found in the fern house. There are eight other display houses, while out of doors are the rose garden, the perennial garden, the aquatic garden, the formal garden, the arboretum and countless plants which will be in bloom during the Association's meeting. The Missouri Botanical Garden is valued at $10,000,000. It is supported by an annual budget of about $150,000.



WASHINGTON UNIVERSITY

FOREST PARK

A third St. Louis institution notable because of its rank in comparison with others in larger American cities is Forest Park. No other American park has such a diversity of interest as Forest Park. Its west section is the site of the Louisiana Purchase Exposition of 1904 and many of the more beautiful features of the exposition have been made permanent. The topography, like that of the city, is undulating and the 1,400 acres are wooded with majestic oaks, one of the finest groves of that species in the middle west being preserved in its native state at the western extremity of the park. The location of the park is thirty minutes' street car ride from the downtown district and the surroundings are the better residential section, in addition to the private residence "places," famous for their magnificent homes.

A rapid enumeration of all that Forest Park holds would include the Museum of Fine Arts, the zoo, the Jefferson Memorial, the Municipal Theater, eighteen miles of automobile roads, twenty-six tennis courts, seventeen baseball diamonds, two handball courts, a cricket field, two golf courses, a seven-acre drill ground and several picnic grounds, as well as several ornamental shelter houses. Forest Park is the playground of St. Louis. It is a show place and a place for recreation and education.

The zoo frequently has been visited by commissions from other cities bent on copying the ideas being carried out. The most signal of these departures in zoo construction are the

bear pits, in which the bears live in the open with no bars separating them from the gaze of the public. A moat concealed beneath a terraced embankment is the only thing that maintains their captivity. The dens are reproductions of rock formations along the bluffs of the Mississippi and are of great beauty. There are four of the pits, each with a frontage of sixty-five feet.

Art museums are different the world over. No two museums can possess the same masterpiece. The St. Louis Museum is the building used for the World's Fair display of art. It has a notable collection of works of famous artists, and houses the finest collection of American sculpture that has been gathered together.

Jefferson Memorial is the home of the Missouri Historical Society. Besides showing relics relating to the history of Missouri, and displaying the usual sectional museum collection, the Missouri Historical Society has gathered a rare collection of Indian relics—arrowheads, utensils, weapons, implements and examples of ceramic art which throw light on the character and habits of the Indians who were the forefathers of the Indians Miles Standish knew.

The Municipal Theater is the most unique theater in the United States. It is an out-of-door auditorium of singular acoustics, in which eight weeks of opera is presented each year. The theater has for a stage the grassy bank of the River Des Peres, a little stream that runs through the park. The proscenium is formed by two gigantic oak trees. The auditorium is the hillside. The properties of the theater were discoverer almost by chance. It was established as a municipal institution with an all-star production, in 1915, of "As You Like It," with Robert Mantell, Genevieve Hamper and Margaret Anglin. Since then, in summer, it has been in almost constant use for community gatherings, grand opera, band concerts, public speaking, and the municipal opera, the fame of which is percolating throughout the country. Other cities have begun to copy it.

OLIVE STREET CANYON

The hillside has been transformed into a permanent auditorium with 9,270 seats, which usually are filled for five nights each week throughout the eight weeks of the opera season. The theater is surrounded on three sides by pergolas which shelter the crowd in time of rain. However, last season the opera went through its season without one postponement because of rain.

The opera company is recruited from stars of the light opera stage, and, at times, grand opera stars have been members. The chorus, usually of about eighty members, is trained through the winter months in the municipal opera school. The orchestra is composed of fifty of the eighty members of the St. Louis Symphony Orchestra.

EDUCATIONAL FACILITIES

The educational facilities of the city are two major universities, numerous smaller colleges and private schools and a public school system with definite qualities to distinguish it from similar systems in other cities.

It is fortunate that the two major universities should be notable for their medical schools. Washington University's physical plant is one of the most noteworthy in the world, and the age and scholarly reputation of the St. Louis University School of Medicine needs no mention to physicians.

Washington University School of Medicine is separated from the other schools of the university by the length of Forest Park. The classic towers of the main university stand at one extremity, and the new buildings for the medical school are at the other. Barnes Hospital, an imposing group of buildings of much larger dimensions than the usual 250-bed hospital, is attached to the medical school as the teaching unit of the school and is connected with it by a tunnel. The medical school also has the professional administration of the St. Louis Children's Hospital, which is in the same group of buildings, and likewise will furnish the staff for the new Shriners' Hospital for crippled children which is soon to be erected on a site adjoining the medical plant. The fact that the St. Louis crippled children's hospital is to be the central unit of a series which the Shriners expect to spread over the United States and Canada will, it is expected, add to the prestige of Washington University as a center for clinical work among children. It already holds high rank in pediatrics and in orthopedic surgery by reason of its attachment to the children's hospital. The opportunity for inspection of the Washington University plant may be considered a major attraction of the May meeting.

St. Louis University is an ancient institution at the exact geographic center of the city. The university is the oldest organization for learning in the Louisiana purchase tract, having been established in 1818 by the Jesuit Order. The administration buildings on Grand Avenue between Lindell and West Pine Boulevards are several blocks from the school of medicine, which is at Grand Avenue and Caroline Street. The dental school is there also. The medical school has an attendance of about 300, and the dental school of 224. The school of medicine has a faculty of 143 men of attainment in their respective fields. The school provides clinical teaching in several of the larger hospitals, including the city hospital, for a division of which the school has accepted staff responsibility. The meeting places for the May assemblage are in proximity to St. Louis University and not at a great distance from the Washington University group.

COMMERCE AND INDUSTRY

Industrial St. Louis is greatly diversified. It is said that St. Louis feels the vicissitudes of business less than any other large city, both because of its traditional investment and banking conservatism and from the fact that no one industry is emphasized to the extent that the city's welfare is dependent on it.

One of the leading industries is the manufacture of chemicals, in which the city leads the country. The chemical and drugs sales for 1921 were in excess of $60,000,000. However, the largest single industry is the manufacture of shoes, and here are not only the largest shoe companies, with factories scattered throughout Missouri and Illinois, but also the largest single shoe plant in the world. The annual business of St. Louis shoe companies is in excess of $100,000,000.

MISSOURI ATHLETIC CLUB

An industrial giant of common interest is the plant of the St. Louis Coke and Chemical Co., a business based on a patented process of coking coals hitherto regarded as noncoking, an accomplishment that, it is asserted, will threaten the age-long supremacy of Pittsburgh in steel. Iron ore shipped from Minnesota by way of the Mississippi River will meet coke more cheaply in St. Louis than it does in Pittsburgh, and the consequence is cheaper pig iron in the middle west than the steel stronghold of the east.

The plant of the St. Louis Coke and Chemical Company is especially interesting because the huge blast furnace, the latest to be constructed in the United States, is the last word among those picturesque crucibles. The investment in the coke and steel plant is $10,000,000.

St. Louis lights are lit and St. Louis street cars are run by electricity generated by the Mississippi River at the Keokuk dam and brought to the city overland by a high voltage transmission system.

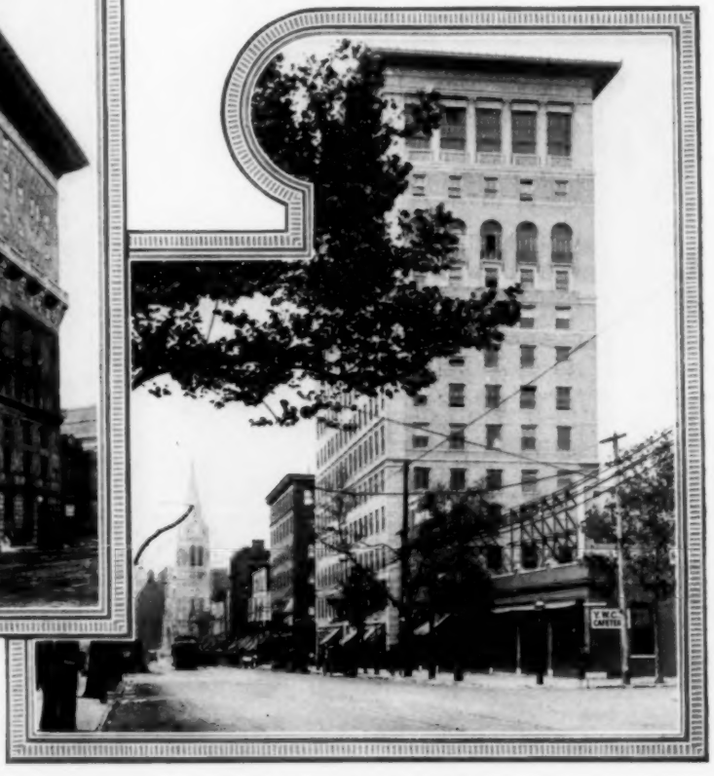
IMPORTANT BUILDINGS

Union Station in St. Louis long was pictured in the grade school geographies as the finest passenger station in the United States. Since the St. Louis station was built many cities have acquired stations of greater size, but constructed on various levels. Trains still come and go in St. Louis on thirty tracks, all on the same level. A survey of railroad engineers recently noted the fact that the station still is a remarkable one for the speedy movement of trains.

The Catholic cathedral of St. Louis is the finest church structure in America in point of size and outlay of money. Its interior, which is being wrought in elaborate mosaic, is not yet complete, but services are being held while work makes its careful, tedious progress. The cathedral has cost, so far, $4,000,000.

SHOPPING FACILITIES

The shopping facilities in St. Louis are grouped within a comparatively small area. There are three large department stores, each covering a block of ground to a height of eight, ten and twelve stories. The stores, being accustomed to large numbers of shoppers from out of the city, have provided multiple facilities for their comfort. For this reason, the families of members of the American Medical Association will find St. Louis an enjoyable place.



UNIVERSITY CLUB

TABLOID FACTS

St. Louis has the lowest infant death rate of all large cities in the country.

It supports nineteen municipal children's playgrounds and a municipal recreational program of a magnitude not approached in any other American city. St. Louis gave birth to the now fast spreading plan of the municipal fostering of athletic competition on a large scale.

The daily capacity of the Chain of Rocks water filtration plant is 160,000,000 gallons.

The Ranken School of Mechanical Trades is notable for its buildings and the scope of its instruction.

The public library system, consisting of a main building, six large branches and sixty stations, circulates 1,000,000

books annually. The main building is one of the outstanding architectural works of the city.

The architecture of the public school buildings is not approached in the United States.

The museum of natural history of the public school system is the only one of its kind in the United States.

Jefferson Barracks, the oldest military post in the west, is a short street car ride from St. Louis, on bluffs overlooking the Mississippi River.

There are eleven country clubs in St. Louis County, each having a golf course.

St. Louis County, which is a continuously populated area on the outskirts of St. Louis, has good automobile roads and many scenic spots.

St. Louis is remarked always by visitors for its large number of handsome residences. Many of these are on private streets called "places." The city has a large percentage of home owners, probably owing to the fact that only 13 per cent. of its population is foreign born.

Outdoor facilities publicly supported include twenty-one parks, twenty-three picnic grounds, thirty-four baseball grounds, eighteen soccer football fields, two outdoor swimming pools and fifteen wading pools.

Municipal athletic leagues in baseball, football, basket ball, tennis, golf and rowing are supervised by the city park department.

Christ Church Cathedral, the purest example of Gothic architecture in the west, was the first Protestant church founded west of the Mississippi River.

St. Louis is the "friendly city."

MOOLAH TEMPLE (Lindell Boulevard, near Vandeventer)
In this building will be the general headquarters, registration, postoffice, information bureau, and scientific and commercial exhibits.

TRANSPORTATION

Special Railroad Fares

The Southwestern Passenger Association serves points within the territory as indicated: from certain points in Illinois and Missouri, as well as from points in Arkansas, Colorado, Kansas, Louisiana, Nebraska, Oklahoma and Texas. This Association has authorized the sale of round trip tickets at a fare and a half, with a minimum excursion fare of $1 on the presentation of "Round Trip Identification Certificate." The dates of sale for these special tickets are May 16-24, inclusive, with the final return limit of June 1, 1922, for points in Missouri, Kansas, Arkansas, Louisiana and Oklahoma. The dates of sale will be May 15-23, inclusive, with final return limit of June 2, 1922, from points in Texas. These tickets may be secured from the local ticket agents of the Southwestern lines which are party to the reduced excursion fares announced.

The Southwestern Passenger Association has directed that the reduction can be secured only by those persons who are bona fide members of the American Medical Association, or of one of the other medical organizations approved by the Passenger Association, and holding a meeting in St. Louis just before or just following the Scientific Assembly of the American Medical Association.

The Central Passenger Association includes railroads operating in the states of Indiana and Ohio; the lower peninsula of Michigan; that portion of Illinois on and south of a line drawn from Chicago to Peoria, and thence to Burlington, Iowa, including Hannibal, Mo., and border portions of Kentucky and West Virginia extending from Evansville, Ind., to Louisville, Ky., thence to Kenova, and thence in a line leading to Pittsburgh. This association has authorized the sale of round trip tickets to St. Louis under the conditions authorized by the Southwestern Passenger Association, with dates of sale, May 16-24, inclusive, with final return limit of June 1, 1922.

The Trunk Line Association acts for railroads within New York State (east of and including Buffalo, Niagara, Suspension Bridge and Salamanaca), New Jersey, Pennsylvania (east of and including Erie, Oil City and Pittsburgh), Delaware, Maryland, District of Columbia, Virginia and West Virginia (east of and including Wheeling, Parkersburg, Kenova, Orange and Norfolk). This association has authorized the sale of excursion tickets in accordance with the conditions announced, the tickets to be on sale May 16-24, inclusive, with the final return limit of June 1, 1922.

The New England Passenger Association, which serves the New England States and certain territory on the eastern border of New York State, has also authorized the sale of excursion tickets in accordance with the announced conditions. These tickets will be on sale May 16-24, inclusive, with a final return date of June 1, 1922.

The Southeastern Passenger Association includes stations on lines in Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Vir-

ginia and West Virginia, including the gateway points—New Orleans, Baton Rouge, La., Vicksburg, Miss., Helena, Ark., Memphis, Tenn., Cairo, Ill., Evansville, Ind., Cincinnati and Washington, D. C. In accordance with the foregoing conditions, round trip excursion tickets may be bought from points in this territory, May 16-24, inclusive, with a final return limit of June 1.

The Western Passenger Association has announced that these special rate round trip tickets in accordance with the foregoing conditions may be purchased May 15-23, inclusive, with final return limit of June 2, 1922, from points in Arizona, Colorado, Idaho, Montana, New Mexico, Utah and Wyoming, while from points in North Dakota the selling dates will be May 16-24, inclusive, and the final return limit June 1, 1922.

The Transcontinental Passenger Association has authorized the sale of the Round Trip Identification Certificates in accordance with the conditions announced as follows: The individual lines in California, Nevada, Oregon, Washington and Western British Columbia will sell tickets to St. Louis, May 12-19, inclusive, with the final return limit of June 5, 1922.

In every instance the return portion of the ticket must be validated by the ticket agent at St. Louis before the tickets will be good for return passage.

Through the courtesy of representatives of the Illinois Central Railroad Company, the following table has been prepared announcing railroad rates from various points:

		Fare	Lower	Upper	Drawing Room
Atlanta		$33.80	$6.75	$5.40	$24.00
Boston	Via Chicago	65.37	10.13*	8.10*	36.00*
Boston	Direct	65.37	12.00	9.60	42.00
Chicago		15.62	3.75	3.00	13.50
Denver		49.20	10.13	8.10	36.00
Los Angeles	Via New Orleans	120.21	22.50	18.00	79.50
Los Angeles	Direct	110.46	22.50	18.00	79.50
New Orleans		38.06	7.88	6.30	28.50
New York	Via Chicago	59.48	9.00*	7.20*	31.50*
New York	Direct	57.09	10.88	8.70	39.00
Philadelphia	Via Chicago	53.48	8.25*	6.60*	30.00*
Philadelphia	Direct	52.23	10.13	8.10	36.00
St. Paul	Direct	31.11	5.63	4.50	21.00
Washington	Direct	48.81	9.00	7.20	31.50

* To Chicago only.

Identification Certificates Necessary

The passenger associations direct that the Fellows and members of the American Medical Association have impressed on them that reduced fares cannot be obtained unless they present identification certificates to the ticket agent when purchasing their tickets. The passenger associations state that they have had occasion in the past where members have purchased one way tickets, thinking that reduced fares would be accorded on return trip. Failure to purchase round trip tickets on the presentation of identification certificates will mean a loss to the members. The passenger associations further direct that the reduced rate which has been authorized for the annual session of the Association can be secured only by those persons who are bona fide members of the American Medical Association, and of other specified medical organizations which will meet at St. Louis about the same time.

Members who desire to take advantage of these special railroad fares must secure "identification certificates," which are to be deposited with the ticket agent who sells the round trip ticket. These identification certificates will be forwarded promptly to those members who make requests for them from the Secretary of the American Medical Association, 535 North Dearborn Street, Chicago. A self-addressed, stamped envelop should be enclosed with the request. Members who plan to take advantage of these fares should write at once for identification certificates. A failure to do this may make it impossible to forward the identification certificate in time so that the member may use it in purchasing his transportation to St. Louis.

Members who plan to go to St. Louis are urged to consult the local ticket agent in their home town for full information regarding available rates, extensions and stopover privileges. The tariff schedules on file at every ticket office will allow the local ticket agent to quote rates from that point. In addition to this, with the assistance of the agent, the physician can determine whether or not it is possible to arrange for side trips either going or coming. Moreover, it may be necessary for the local agent in smaller cities to secure a special form for the round trip ticket from a central distributing point.

REGISTRATION

The Bureau of Registration will be located in the Moolah Temple, Lindell Boulevard, near Vandeventer Street. A committee of local physicians will assist those desiring to register. A branch postoffice will be opened and a bureau of information established in connection with the Registration Bureau. Here may be secured copies of the *Daily Bulletin*, which announces the names of visitors and other important convention items.

Fellows, Affiliate, Associate and Honorary Fellows, and Invited Guests only may register and take part in the work of any of the sections of the Scientific Assembly. Members of the organization, i. e., members in good standing in the constituent associations, are eligible to Fellowship in the Scientific Assembly. The Fellows of the Scientific Assembly are those members who have, on the prescribed form, applied for Fellowship, subscribed to THE JOURNAL, and paid their annual Fellowship dues for the current year. These annual Fellowship dues provide a subscription for THE JOURNAL for one year. In a word, members of component county medical societies are *ipso facto* members of their several constituent state associations and are eligible for Fellowship in the Scientific Assembly. Members should qualify as Fellows before they start for St. Louis, and receive a pocket card certifying to their Fellowship. This card will enable its holder to register at the St. Louis Session readily and without undue delay. Those who do not have pocket cards should secure them by writing to the American Medical Association, 535 North Dearborn Street, Chicago.

ARRANGEMENTS FOR SECURING POCKET CARD

Arrangements will be made so that it will be possible for members of the organization to qualify as Fellows of the Scientific Assembly after they reach St. Louis; but it will require more time to register, and the delay will not only be a hardship to the physician who postpones qualifying as a Fellow, but also will be an inconvenience to others waiting their turn to register.

Register Early

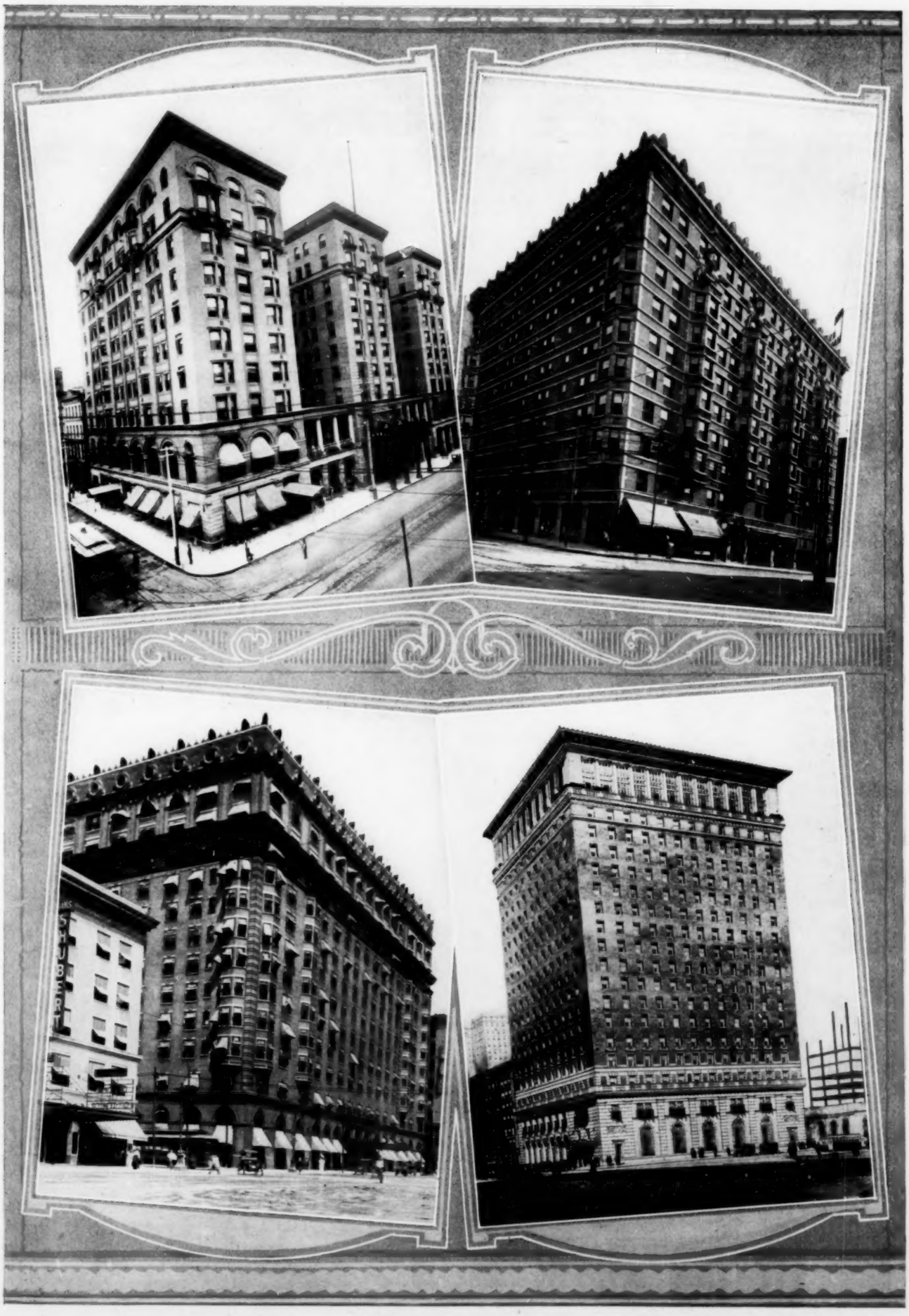
Physicians of St. Louis and Missouri, as well as other Fellows who are in St. Louis on Monday and Tuesday, should register as early as possible. It will be an accommodation to visiting physicians to find the names and addresses of the members of the St. Louis profession listed in the *Daily Bulletin* for Tuesday, May 23.

Suggestions Which Will Facilitate Registration

Every one who registers will fill out completely the spaces on both sections of the front of the double registration cards, which will be found on the tables in front of the Registration Bureau. These entries should be written very plainly, or printed, as the cards are given to the printer to use as "copy" for the *Daily Bulletin*.

1. Fellows who have their pocket cards with them can be registered with little or no delay. They should present the filled out registration card, together with their pocket card, at one of the windows marked "Registration by Pocket Card." There the clerk will compare the two cards, stamp the pocket card and return it, and supply the Fellow with a copy of the official program and other printed matter of interest to those attending the annual session.

2. Those Fellows who have forgotten their pocket cards should present the filled in registration card at the window



SOME ST. LOUIS HOTELS

Upper left: PLANTERS' HOTEL, Headquarters Section on Ophthalmology. Upper right: MARQUETTE HOTEL, Headquarters Section on Laryngology, Otology and Rhinology. Lower left: JEFFERSON HOTEL, Headquarters Section on Surgery and Orthopedic Surgery. Lower right: HOTEL STATLER, Headquarters Section on Practice of Medicine.

marked "Paid—No Card." The work of registration at this window will be conducted as rapidly as possible; but the necessity of finding the Fellow's name on the Fellowship roster may occupy a considerable time and will occasion inconvenience to those who neglect to bring their pocket cards with them.

3. The Fellow whose 1922 dues are unpaid should present his filled in registration card with the amount of his Fellowship dues ($6) at one of the windows marked "Cash." Here, too, there will be some delay; but the work of registering will be conducted as promptly as possible.

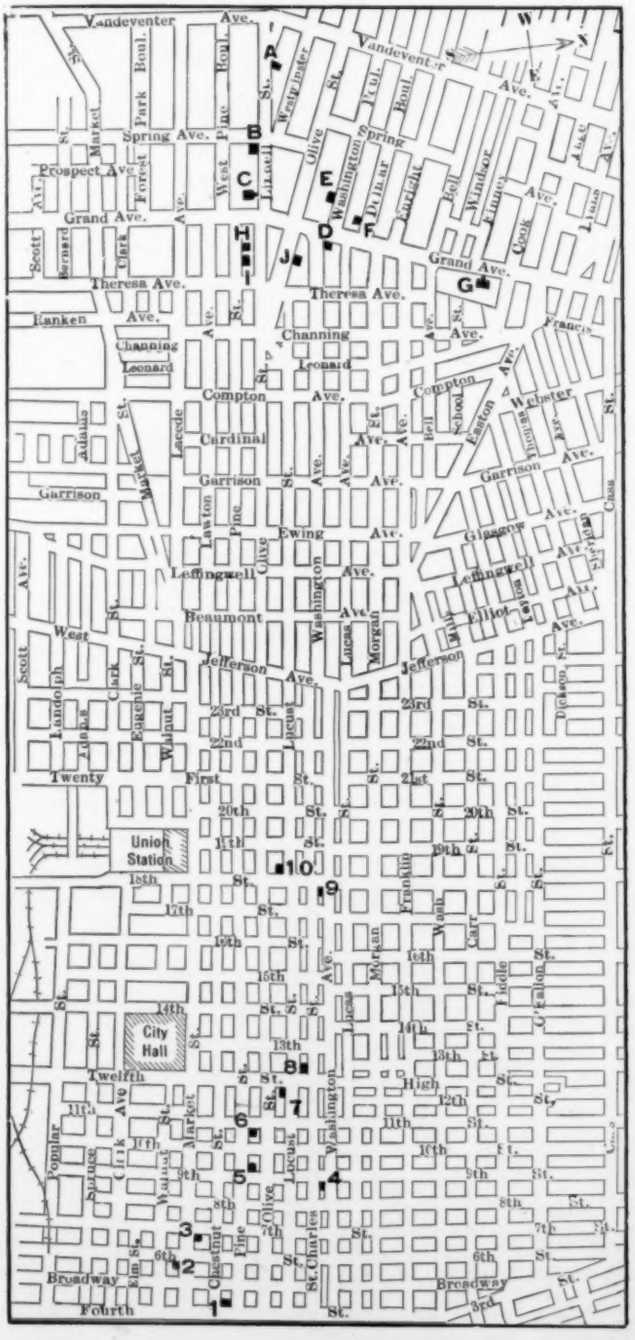
4. As previously stated, it will assist in registering if those who desire to qualify as Fellows will file their applications and qualify as Fellows by writing directly to the American Medical Association, 535 North Dearborn Street, Chicago, so that their Fellowship may be entered not later than May 10. Any applications received later than May 10 will be given prompt attention, but the Fellowship pocket card may not reach the applicant in time so that he can use it in registering at the St. Louis Session.

As already stated, it will be possible for members of the organization to qualify as Fellows at St. Louis. In order to do this, applicants for Fellowship will be required to fill out both sections of the front of the registration card and sign the formal application printed on the reverse side. It is suggested that those who apply for Fellowship at St. Louis shall provide themselves before leaving home with certificates signed by the secretary of their state association, attesting that they are members in good standing in the state and county branches of the organization. A state membership card for 1922 will be acceptable. The certificate or membership card should be presented along with the filled in registration card at the window in the registration booth marked "Applications for Fellowship and Invited Guests."

MEETING PLACES AND SECTION HEADQUARTERS

KEY TO MAP

American Hotel (3)	Sheldon Memorial Hall (E)
American Annex (2)	St. Louis Medical Society Bldg. (I)
Claridge Hotel (10)	St. Louis University Law School Auditorium (C)
Jefferson Hotel (8)	St. Peter's Parish House (B)
Majestic Hotel (6)	Statler Hotel (4)
Marquette Hotel (9)	Third Baptist Church (D)
Moolah Temple (A)	Union Methodist Episcopal Church (F)
Musicians' Hall (H)	Warwick Hotel (7)
Odeon Theater (G)	
Planters' Hotel (1)	



The following have been designated as section hotel headquarters and as meeting places * for the St. Louis Session—May 22 to 26:

HOUSE OF DELEGATES: *St. Louis Medical Society Building* (I).

GENERAL MEETING: *Odeon Theater* (G).

PRACTICE OF MEDICINE: Statler (4). *Odeon Theater* (G).

SURGERY, GENERAL AND ABDOMINAL: Jefferson (8). *Third Baptist Church* (D).

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY: Claridge (10). *Third Baptist Church* (D).

OPHTHALMOLOGY: Planters (1). *Sheldon Memorial Hall* (E).

LARYNGOLOGY, OTOLOGY AND RHINOLOGY: Marquette (9). *Sheldon Memorial Hall* (E).

DISEASES OF CHILDREN: American (3). *Odeon Theater* (G).

PHARMACOLOGY AND THERAPEUTICS: American Annex (2). *Odeon Theater* (G).

PATHOLOGY AND PHYSIOLOGY: American Annex (2). *Odeon Theater* (G).

STOMATOLOGY: Warwick (7). *St. Peter's Episcopal Church Parish House* (B).

NERVOUS AND MENTAL DISEASES: Majestic (6). *St. Louis University Law School Auditorium* (C).

DERMATOLOGY AND SYPHILOLOGY: Majestic (6). *Union Methodist Episcopal Church* (F).

PREVENTIVE MEDICINE AND PUBLIC HEALTH: Warwick (7). *Musicians' Hall* (H).

UROLOGY: Maryland (5). *Union Methodist Episcopal Church* (F).

ORTHOPEDIC SURGERY: Jefferson (8). *St. Louis University Law School Auditorium* (C).

GASTRO-ENTEROLOGY AND PROCTOLOGY: Maryland (5). *Musicians' Hall* (H).

MISCELLANEOUS (MEETING ON ANESTHESIA): *St. Peter's Episcopal Church Parish House* (B).

GENERAL HEADQUARTER: SCIENTIFIC EXHIBIT, REGISTRATION BUREAU, COMMERCIAL EXHIBIT, INFORMATION BUREAU AND BRANCH POSTOFFICE: *Moolah Temple* (A).

* Meeting places in italics.

POSTOFFICE

An Association Postoffice will be maintained in connection with the Registration Bureau in Moolah Temple, Lindell Boulevard and Vandeventer Avenue. Guests are requested to order mail addressed to them "Care American Medical Association, Moolah Temple, St. Louis, Mo.," or to their hotels, as preferred.

ST. LOUIS HOTELS

The accompanying table shows the daily rates and the accommodations available at a number of the leading hotels of St. Louis.

The Local Committee on Hotels is making arrangements so that visiting Fellows will be assisted in securing lodgings even though they have neglected to make reservations. All trains arrive in St. Louis at one station—the Union Station. Tourist Bureau, an information booth will be maintained in the center of the Union Station Midway. This booth will be readily visible from all exits from trains.

Any Fellow who, after writing to the hotel of his choice, fails to secure a reservation will be assisted in obtaining lodgings if he will write to the Chairman of the Local Committee on Hotels, stating just what accommodations he

ST LOUIS' LEADING HOTELS (ALL EUROPEAN PLAN), THEIR LOCATION AND RATES

Hotel, with Number of Rooms *	Street Address	Without Bath		With Bath	
		Single	Double	Single	Double
American, 275 *Diseases of Children*	7th and Market Streets	.....	.....	$2.50–3.00	$4.00– 6.00
American Annex, 225 *Pathology and Physiology* *Pharmacology and Therapeutics*	6th and Market Streets	.....	.....	2.00–3.00	3.00– 6.00
Beers, 114	Grand and Olive Streets	$1.50	$2.50	2.00–2.50	3.00– 3.50
Brevort, 50	4th and Pine Streets	.....	.....	2.00	3.00
Cabanne, 43	5545 Cabanne Street	.....	.....	12.00–37.50 †	
Claridge, 350 *Obstetrics, Gynecology and* *Abdominal Surgery*	18th and Locust Streets	.....	.....	2.50–4.00	4.00–10.00
Hamilton, 160	Hamilton and Maple Streets	.....	.....	2.00–2.50	3.50– 4.00
Jefferson, 400 *Surgery, General and Abdominal* *Orthopedic Surgery*	12th and Locust Streets	2.50–3.00	4.00	3.00–8.00	6.00–10.00
Laclede Hotel, 265	6th and Chestnut Streets	1.50–2.00	2.50–3.00	2.50–3.00	3.50– 4.00
Majestic, 200 *Dermatology and Syphilology* *Nervous and Mental Diseases*	11th and Pine Streets	.....	.....	2.50–3.00	3.50– 4.00
Marion Roe, 200	Broadway and Pine Streets	.....	.....	1.50–2.00	3.00– 4.00
Marquette, 400 *Laryngology, Otology and Rhinology*	18th and Washington Streets	2.00–2.50	3.00–3.50	3.00–3.50	4.00– 6.00
Maryland, 240 *Gastro-Enterology and Proctology* *Urology*	9th and Pine Streets	2.00	3.00	2.50–3.50	4.00– 5.00
Planters, 400 *Ophthalmology*	4th and Pine Streets	2.00–2.50	3.00–3.50	2.50–5.00	4.00– 8.00
Plaza, 200	3300 Olive Street	.....	.....	2.00–2.50	3.50– 5.00
Roselle, 100	4137 Lindell Boulevard	.....	.....	1.50–2.50	2.50– 3.50
St. Francis, 120	6th and Chestnut Streets	1.50–2.00	2.50–3.00	3.00–4.00	4.00– 5.00
Statler, 650 *Practice of Medicine*	9th and Washington Streets	.....	.....	3.00–7.00	5.50– 9.50
Stratford, 100	8th and Pine Streets	1.50	2.50	2.50	3.50
Terminal, 100	Union Station	1.50–2.00	3.00	3.00–3.50	5.00
Warwick, 200 *Stomatology* *Preventive Medicine and Public Health*	15th and Locust Streets	.....	.....	2.00–4.00	4.00– 6.00
Westgate, 125	Kingshighway and Delmar Streets	2.00	2.50	3.00	3.50

* Section hotel headquarters indicated by name of section following hotel. † Weekly rates only.

On Monday and Tuesday of the week of the annual session, trains will be met by members of the Committee on Registration and Information, who will render every possible assistance to incoming Fellows, directing them to the proper street car lines or to taxicabs, as desired, and giving them information relative to hotels and lodging quarters. In addition, through cooperation with the St. Louis Convention and desires, when he expects to arrive in St. Louis, who constitute his party and how long they plan to remain in the city. In addition, the applicant should state what effort has previously been made to secure the desired lodgings. Communications for the attention of the Committee on Hotels should be addressed to Dr. Louis H. Behrens, 3525 Pine Street, St. Louis.

MOTORING TO AND IN ST. LOUIS

Arrangements have been made with the Automobile Club of Missouri whereby automobiles will carry A. M. A. posters so that when a Fellow, his family or a guest sees one of these automobiles going in his direction the driver may be hailed and the visitor will be taken on his way as far as the car is going.

The standard taxicab rates of St. Louis are:

Yellow Cab Company: For the first mile, 50 cents and 20 cents for each additional mile thereafter, together with an additional cost of 20 cents for each extra passenger.

Columbia Taxi Company: For the first mile, 80 cents and 30 cents for each additional mile thereafter, with an additional cost of 20 cents for each extra passenger.

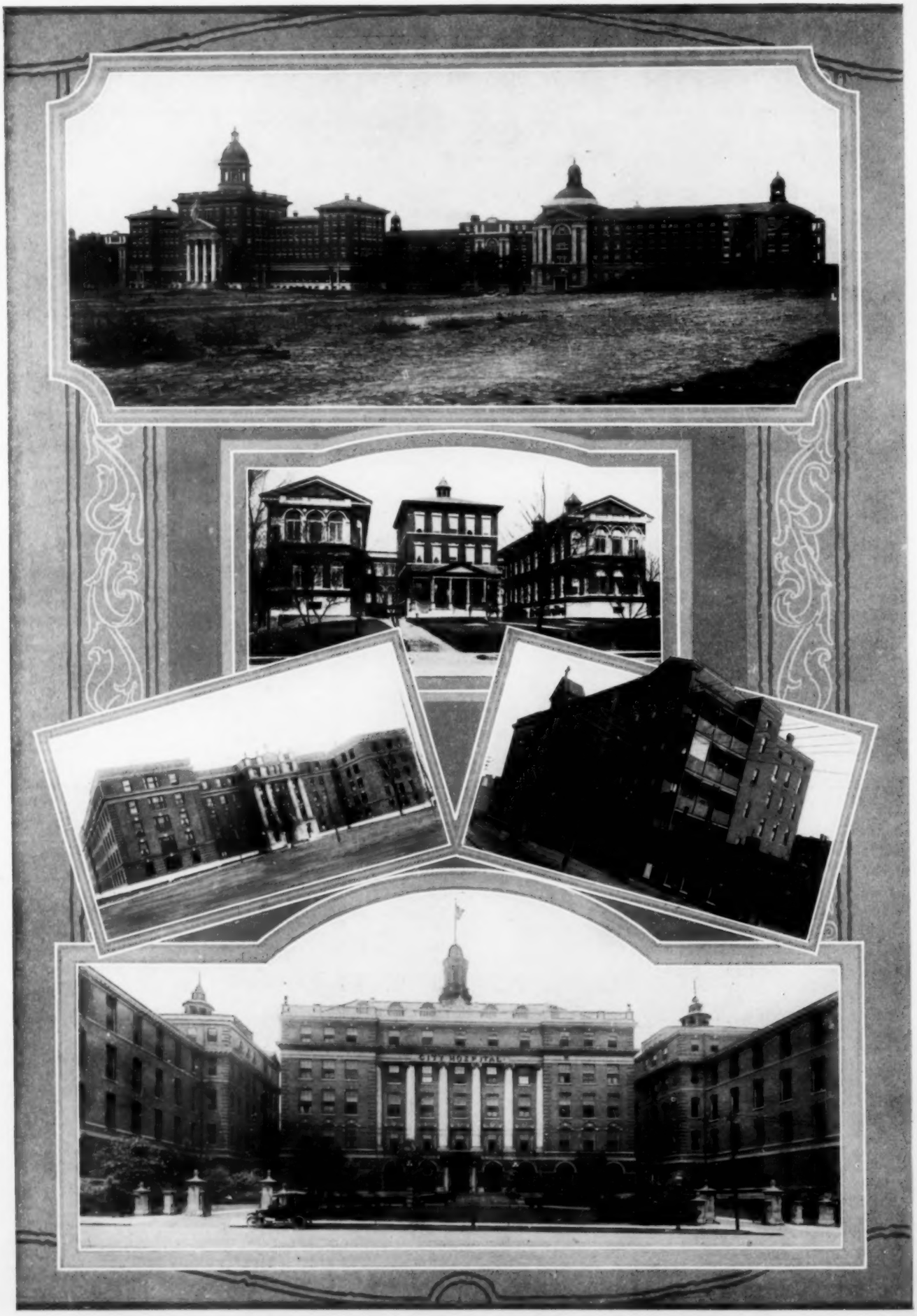
To St. Louis by Automobile

The splendid roads entering St. Louis through the neighboring states will undoubtedly tempt a number of physicians to motor to St. Louis for the annual session. The Fellows can obtain assistance and information through the different automobile organizations in which they hold membership or the Automobile Club of Missouri, which is located in St. Louis at 3230 Locust Street, on the corner of Channing Avenue, a short distance from the Registration Headquarters, at Moolah Temple.

Those desiring to tour will find that the roads from the North and East into St. Louis are in fine condition, especially through Illinois. The condition of the roads in the West and South depends on the weather. There is ample garage room in the downtown hotel district and the outlying districts are also well supplied.

Directions for tourists who desire to motor to St. Louis will be given in detail by the Automobile Club of Missouri in a subsequent article. One of the facilities offered by St. Louis for Fellows who would enjoy camping during the meeting and who make the trip in autos is the use of the camping grounds in Forest Park. A section of the park is provided with excellent arrangements for camping, with shower baths and camp stoves, and excellent ground space for erecting tents. This portion of the park will be guarded during the meeting and all precautions taken to enable campers to take full advantage of this opportunity.

Those desiring to have camping space allotted to them should address Fred. W. Pape, Park Commissioner, City Hall, St. Louis, Mo.



SOME ST. LOUIS HOSPITALS

Above: City Sanitarium and Hospital for the Insane. Upper center: Jewish Hospital. Right center: St. Mary's Hospital and Infirmary. Left center: St. John's Hospital. Below: City Hospital.

SOME ST. LOUIS HOSPITALS

Above: Barnes Hospital. Left center: Children's Hospital. Right center: Barnard Free Skin and Cancer Hospital.
Below: St. Luke's Hospital.

ENTERTAINMENT

(NOTE.—The official badge will be required for admission to entertainments and other places to which entrance is granted to those in attendance on the annual session.)

The Scientific Assembly will open with the general meeting convening at 8:30 p. m., Tuesday, May 23, in the Odeon Theater.

The Local Committee of Arrangements announces the following entertainments:

Tuesday, May 23

At 4 p. m. there will be a roof garden tea at the Hotel Statler, to meet the ladies accompanying the officers of the American Medical Association.

Wednesday, May 24

At 2 p. m. the ladies will be taken for an automobile drive about the city and vicinity. From 4 to 6 p. m. there will be a reception at the City Art Museum, Forest Park.

During the evening there will be smokers and banquets of medical alumni, medical fraternities and a number of the sections. Provision will also be made for the entertainment of visiting ladies and others who are not engaged at the former functions for a moving picture show with special musical and other features, to be given at one of the motion picture theaters.

At 8 p. m., in the auditorium of the Washington University Medical School, Scott and Euclid Avenues, there will be a demonstration of modern pedagogic methods in the training of the deaf child, in which teachers and pupils of the Central Institute for the Deaf will take part. The demonstration will be of special interest to those interested in the Section on Laryngology, Otology and Rhinology, but all Fellows of the Association are invited.

Thursday, May 25

In the morning, through the courtesy of the director, Mr. George T. Moore, the ladies will be afforded an opportunity to visit the Missouri Botanical Gardens, and the Wednesday Club of St. Louis will present a play, "In a Chinese Garden," by Wilcox. Special trolley cars will be provided for the round trip.

In the afternoon the president and trustees of Washington University and the faculty of the Medical School will give a tea on the grounds of the Medical School and the associated hospitals.

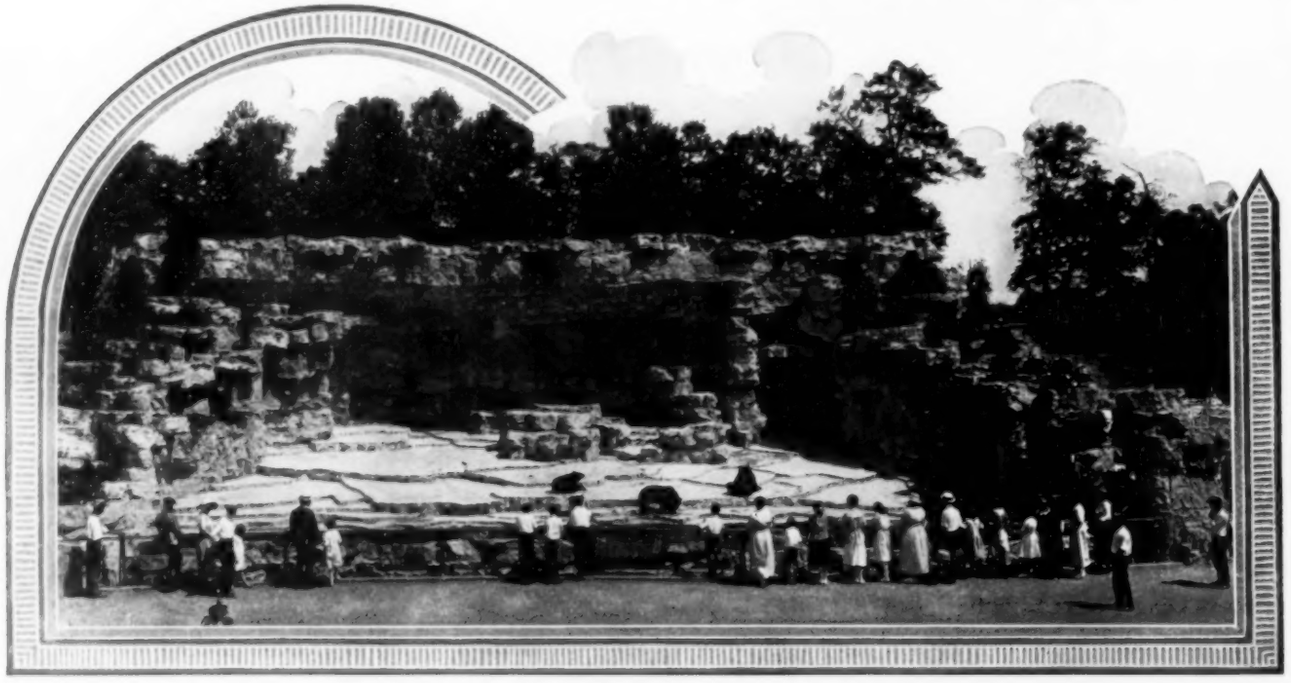
The evening will be devoted to a reception to the President at Arcadia Hall.

Friday, May 26

From 10:30 a. m. until noon, the Morning Choral Club of St. Louis will present a musical in honor of the visiting ladies at the Scruggs, Vandervoort and Barney Music Hall.

From 2 to 5 p. m. there will be a boat trip on the Mississippi, with dancing and plantation melodies.

At 8 p. m., one of the chief entertainments of the week planned by the Local Committee will be given, when a special program for the entire Association will be presented by the Municipal Opera in St. Louis' open-air theater. This is located in the heart of Forest Park. Its special lighting effect on the natural foliage of the park is a unique sight for those who visit it at night. It is one of the features of St. Louis



BEAR PIT.—ST. LOUIS ZOO IN FOREST PARK

American Medical Golf Tournament

The eighth tournament of the American Medical Golfing Association will be held at Glen Echo, St. Louis, Monday, May 22, under the auspices of the Local Committee: Fred Bailey, chairman, Harry Unterberg and Harvey Mudd, and Harry Lyman, secretary, Carleton Building, St. Louis, Mo.

The events will take place both morning and afternoon. They consist of the "Association championship," thirty-six holes gross, "Frisco" trophy; "Association handicap," thirty-six holes, "Detroit" trophy; choice score handicap, thirty-six holes, "St. Louis" trophy; eighteen hole handicap, president's trophy, and the section team matches.

Any Fellow of the American Medical Association in good standing who has a degree of M.D. becomes automatically a member of the American Medical Golf Association, on acceptance of the by-laws and payment of the enrolment fee. The enrolment fee is $2, payment of which confers life membership. A fee of $2 is charged to enter.

All play will be in four ball matches, the Fellows arranging their own games. Players enter in the scientific section under which they register in the A. M. A., and the winning team carries the "section trophies" for the year.

Entries close May 10 for all events, except section teams. Late entrants will play in other matches.

The general secretary, Will Walter, 1414 Chicago Avenue, Evanston, Ill., will receive applications and entries.

CLINICS AT ST. LOUIS

The Local Committee of Arrangements reports that the medical profession of St. Louis has arranged a series of clinics to be held Thursday, May 18, to Tuesday, May 23, inclusive. These clinics will be conducted at the St. Louis and Washington Universities and at several of the private and public hospitals of the city. A preliminary schedule is announced. A definite program of these clinics will be published later.

CLINIC PROGRAM

BARNARD SKIN AND CANCER HOSPITAL.—From 9 a. m. to 5 p. m, Monday. Dermatologic, surgical and gynecologic clinics.

WASHINGTON UNIVERSITY MEDICAL SCHOOL, BARNES HOSPITAL.—Medical Department: From 9 a. m. to 12 m., Friday and Saturday. Medical clinics. Surgical Department: From 9 a. m., to 12 m., Thursday, Saturday, Monday and Tuesday. Surgical, gynecologic and obstetric Clinics.

CHILDREN'S HOSPITAL.—Pediatric Department: From 9 a. m. to 12 m., Thursday, Saturday, Monday and Tuesday. Pediatric clinic.

ST. LOUIS UNIVERSITY MEDICAL SCHOOL AND ASSOCIATED HOSPITALS.—St. Mary's Hospital: From 9 a. m. to 12 m., Thursday, Saturday and Monday. Surgical and medical clinics.

St. Anthony's Hospital: From 9 a. m. to 12 m., Saturday and Tuesday. General surgical clinic; maxillofacial and plastic surgical clinic; genito-urinary diagnostic and operative clinic; medical clinic: demonstration pathogenesis of pulmonary infection and animal experimentation.

St. John's Hospital: From 9 a. m. to 12 m., Thursday, Saturday and Tuesday. Surgical and medical clinics. From 2 p. m. to 5 p. m., Friday and Monday. Endocrine clinic, Drs. Engelbach and Tierney, conducted by Drs. Lewellys S. Barker, Baltimore; David Riesman, Philadelphia, and Nelson W. Janney, Los Angeles.

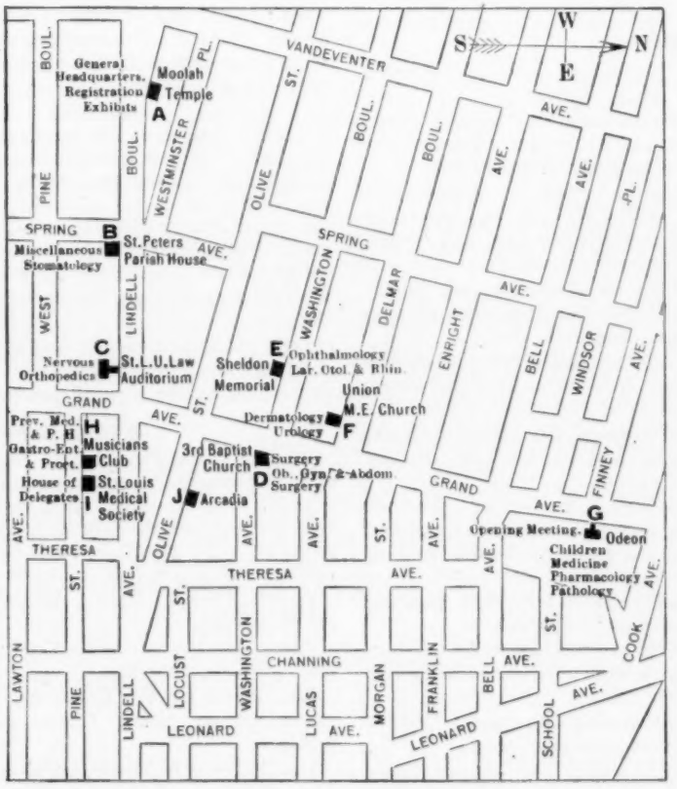


Diagram of central section of city showing headquarters and meeting places.

Alexian Brothers Hospital: From 9 a. m. to 12 m., Friday and Monday. Surgical, genito-urinary, urologic and medical clinics. From 2 p. m. to 5 p. m., Thursday and Saturday. Ear, nose and throat and ophthalmologic clinics.

St. Ann's Maternity Home: Infant feeding clinic; dates to be announced later.

FRISCO HOSPITAL.—From 9 a. m. to 12 m., Thursday and Saturday. Surgical clinic.

LUTHERAN HOSPITAL.—Surgical, medical and genito-urinary clinics; dates to be announced later.

MISSOURI BAPTIST SANITARIUM.—Surgical, orthopedic and gynecologic clinics; dates to be announced later.

JEWISH HOSPITAL.—Clinics to be announced later.

ST. LOUIS CITY HOSPITAL.—Daily clinics; schedules to be announced later.

Clinics will probably also be held at the following hospitals, dates and schedules to be announced later: St. Luke's, Deaconess, Mullanphy, Bethesda and St. Louis Baptist.

BROADCASTING THE GENERAL OPENING MEETING ADDRESS

Plans are being made to broadcast by radio the principal addresses, and probably the music, at the opening meeting on Tuesday evening. Two propositions are under consideration: one provides for a radius of 1,500 miles; the other for practically the whole country.

ALUMNI AND OTHER REUNIONS

The Local Committee on Arrangements is arranging that members of medical fraternities and other organizations may register their attendance at the St. Louis Session. Announcements of reunions may be inserted in the *Daily Bulletin* on request.

The Barnes-National Alumni will hold a banquet and entertainment at the Claridge Hotel, Eighteenth and Locust Streets, Wednesday, May 24, at 8 p. m. During the meeting a registry clerk will be stationed in the lobby of Hotel Claridge. Send communications to Dr. C. A. Vosburgh, secretary.

The Alumni Reunion of the Medical Department of Washington University will be held at the Hotel Jefferson, Wednesday, May 24, 6:30 p. m. Graduates of the Medical School of Washington University, of St. Louis Medical College and the old Missouri Medical College are urged to be present. Reservations may be made by addressing Dr. Edgar Allen, Chairman of Committee on Alumni Relations, Washington University, St. Louis.

Wednesday evening, May 24, the St. Louis members of the Phi Chi medical fraternity will informally entertain their visiting brothers with a smoker and luncheon at the Planters' Hotel, Parlor "A." A cordial invitation is extended to all the visiting brothers to attend this affair *en masse*. An evening worth while is assured to all. James P. Sharon, secretary Phi Rho chapter, 3966 Lindell Boulevard, St. Louis.

The Lloyd R. Boutwell Post of the American Legion will give a luncheon to the members of the American Medical Association who are members of the Legion, Wednesday, May 24. Further information may be obtained from Dr. William E. Leighton, Lister Building, St. Louis.

NONAFFILIATED ORGANIZATION

The following organizations have announced that they will hold meetings in St. Louis during the days immediately preceding or following those on which the Scientific Assembly of the American Medical Association will meet; the American Association for the Study of the Feebleminded; the American Association of Anesthetists; the American Association of Industrial Physicians and Surgeons; the American Proctologic Society; Association for the Study of Internal Secretions; the American Medical Library Association, and the Radiological Society of North America.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit will be located in the Auditorium (second floor) of Moolah Temple. Applications received thus far include the following exhibitors. As the date set for assignments is May 1, the list must be considered tentative:

AMERICAN CHILD HYGIENE ASSOCIATION, Baltimore: Exhibit of charts showing various phases of care of children.

AMERICAN NATIONAL RED CROSS, Washington, D. C.: Exhibit of posters on health, nursing, disaster activities and first aid.

AMERICAN SOCIETY FOR THE CONTROL OF CANCER, New York City: Exhibit showing work of the organization.

ASSOCIATION FOR PREVENTION AND RELIEF OF HEART DISEASE, New York: Exhibit showing the work of the organization.

CHILD HEALTH ORGANIZATION OF AMERICA, New York: Exhibit on child health education.

DR. E. E. DODD, New York, and DR. W. W. CADBURY, Cambridge, Mass.: Exhibit of charts and photographs showing medical conditions in China.

DR. H. W. LOEB, St. Louis: Exhibit showing record filing system of the Jewish Hospital of St. Louis.

THE PRUDENTIAL INSURANCE COMPANY OF AMERICA, Newark, N. J.: Exhibit showing graphic charts on diseases; also demonstration of some improved methods of urinalysis.

UNITED STATES PUBLIC HEALTH SERVICE, Washington, D. C.: Exhibit under direction of Dr. C. C. Pierce, Assistant Surgeon General, showing educational posters and charts on child hygiene and also on venereal disease control.

BARNARD FREE SKIN AND CANCER HOSPITAL, St. Louis: Exhibit showing results of early and late treatment of cancer; also cancer and skin disease diagnosis.

DR. HENRY R. COTTON, New Jersey State Hospital, Trenton, N. J.: Exhibit of charts on focal infection; pathologic specimens of colon and teeth.

DR. ROLLA HENRY, St. Louis Hospital, St. Louis: Exhibits from the roentgen-ray, pathologic and occupational therapy departments of the St. Louis Hospital.

MR. ROBERT S. HODGES, Geological Survey of Alabama, University of Alabama: Exhibit of some ringworm fungi and affections common in the South; a study of certain culture medium characteristics.

DR. KENNETH M. LYNCH, Dallas, Texas: Exhibit showing cultivation and differentiation of flagellate protozoa.

DR. REUBEN PETERSON, University of Michigan, Ann Arbor, Mich.: Exhibit on pelykography (pneumoperitoneal pelvic roentgenograms).

DR. L. R. SANTE, St. Louis Hospital, St. Louis: Exhibit showing roentgen-ray prints of unusual conditions.

DR. VILRAY PAPIN BLAIR, St. Louis: Exhibit of photographs and plaster casts, showing various types of face restoration.

DR. WELCOME B. COLEY, New York: Exhibit of tables, photographs, photomicrographs dealing with sarcoma of long bones.

DR. THOMAS EVANS DENTAL INSTITUTE, University of Pennsylvania, Philadelphia: Exhibit of roentgen-ray films showing abnormalities and diseases of upper jaw.

DR. ALFRED BAKER SPALDING, Lane Hospital San Francisco: Exhibit of photographs and roentgenograms from the division of obstetrics and gynecology, Leland Stanford Junior University School of Medicine.

DR. ALFRED STRAUSS, Chicago: Exhibit of drawings, slides and roentgenograms of gastro-intestinal surgery and brain surgery.

DR. LEIGH F. WATSON, Chicago: Exhibit of charts and drawings of hernias.

BATTLE CREEK SANITARIUM, Battle Creek, Mich.: Exhibit of charts and apparatus illustrating the effects of physical agents on metabolism.

DR. LOUIS FOUGERES BISHOP, New York: Exhibit of electrocardiograms.

DR. J. R. PENNINGTON, Chicago: Exhibit of charts showing action of radium on cancer of the rectum.

DR. LOUIS W. SAUER, Evanston, Ill.: Exhibit based on observations of the nonsurgical treatment of pyloric stenosis.

DR. S. CALVIN SMITH, Philadelphia: Exhibit of electrocardiograms.

DR. JAMES E. TALLEY, Philadelphia: Exhibit on electrocardiography (curves).

AMERICAN MEDICAL ASSOCIATION

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS: Exhibit of charts and maps showing statistics on medical school enrolment, graduation and licensure; also charts and maps showing results of survey of dispensaries, outpatient departments, group practice and clinics, their growth and distribution.

COUNCIL ON PHARMACY AND CHEMISTRY: Cards and specimens illustrating the effort of the Council in the interests of scientific medicine and rational prescribing.

THE AMERICAN MEDICAL ASSOCIATION CHEMICAL LABORATORY: Cards and specimens bearing on such subjects as the newer synthetics, comparative prices of proprietary and nonproprietary remedies and drug control.

PROPAGANDA DEPARTMENT OF THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION: Exhibit of (1) a series of educational posters; (2) specimens of pamphlets published for the purpose of furnishing information easily and quickly to the public, and (3) the two volumes of "Nostrums and Quackery," the second one of which has but recently come from the press. There will also be (4) an automatic projection apparatus displaying the stereopticon slides that have been prepared by the department for the use of physicians who may wish to give talks on the nostrum evil.

COUNCIL ON HEALTH AND PUBLIC INSTRUCTION: Exhibit of charts, posters, pamphlets and other material on public health, child welfare, health problems in education, etc.; prepared and issued by the Council for the public.

Moving Picture Theater

On the same floor as the Scientific Exhibit, will open at noon Monday and run continuously each day thereafter from 9 a. m. to 5:30 p. m., until noon on Friday. Each speaker will demonstrate the talk with either lantern slides or moving pictures. The program, as yet tentative, consists in part of the following (the final schedule will be made May 1):

AMERICAN RED CROSS, Washington, D. C.: First aid and relief work.

AMERICAN SOCIETY FOR CONTROL OF CANCER, New York: Rockefeller cancer film.

DR. WILLIAM W. CADBURY, Cambridge, Mass.: Medical conditions in South China and native Chinese medical practices.

DR. ARTHUR J. CRAMP, Director of Propaganda Department, THE JOURNAL, American Medical Association: "Nostrums and Quackery."

DR. JOSEPH L. DE COURCY, Cincinnati: Moving pictures on two thyroidectomies and one herniotomy.

DR. R. E. FARR, Minneapolis: Exhibit of clinical films.

DR. I. LEON MEYERS, Los Angeles: Slow motion picture of rotation process in the air of normal animals and of animals with experimental lesions of the cerebellum and labyrinth.

DR. FRED J. TAUSSIG, St. Louis: Cancer diagnosis.

DR. ISAAC L. ABT, Chicago: Care of premature children.

DR. LEWELLYS F. BARKER, Baltimore: Routine neurologic examination.

DR. JOSEPH C. BLOODGOOD, Baltimore: Early diagnosis and treatment of cancer of the mouth and tongue.

DR. W. E. DANDY, Baltimore: Early symptoms and diagnosis of tumor of the brain.

DR. JOSEPH C. BECK, Chicago: Complications in infection in middle ear.

DR. HENRY S. COTTON, Trenton, N. J.: Relation of physical disorders to certain mental conditions.

DR. THOMAS L. GILMER, Chicago: Pyorrhea and apical abscesses.

DR. CARL H. DAVIS, Milwaukee: Uses of moving pictures in obstetric practice.

DR. HARRY GRADLE, Chicago: Eye infections in contagious diseases.

DR. DEAN LEWIS, Chicago: Early diagnosis and treatment of blastomycosis and actinomycosis.

DR. E. W. RYERSON, Chicago: Deformities and gait affections resulting from infantile paralysis.

DR. FRANCIS E. SENEAR, Chicago: Ulcerative conditions of the skin.

DR. BURT R. SHURLY and DR. CLIFT, Detroit: Differential diagnosis and treatment of sinus infections and common colds. Roentgen ray in diagnosis and treatment of diseases of sinuses and mastoid.

DR. WILLARD J. STONE, Pasadena, Calif.: Lecture demonstration: Practical blood chemistry for the general practitioner.

PRELIMINARY PROGRAM OF THE SCIENTIFIC ASSEMBLY

PROGRAM OF THE OPENING MEETING

Tuesday, May 23—8:30 p. m.

Music.

Call to Order by the President, HUBERT WORK, Pueblo, Colo.

Invocation. The RIGHT REVEREND DANIEL S. TUTTLE.

Announcements. ROBERT E. SCHLUETER, Chairman of the Local Committee of Arrangements.

Address of Welcome. HON. HENRY W. KEIL, Mayor of St. Louis.

Address of Welcome. WILLIAM W. GRAVES, President, St. Louis Medical Society.

Music.

Introduction and Installation of President-Elect GEORGE E. DE SCHWEINITZ, Philadelphia.

Address. GEORGE E. DE SCHWEINITZ.

Music.

THE PROGRAMS OF THE SECTIONS

Outline of the Scientific Proceedings—The Preliminary Program and the Official Program

The following papers are announced to be read before the various sections. The order here is not necessarily the order which will be followed in the Official Program, nor is the list complete. The Official Program will be a pamphlet similar to those issued in previous years, and will contain the final program of each section with abstracts of the papers, as well as lists of committees, programs of the General Meeting, lists of entertainments, map of St. Louis and other information. To prevent misunderstandings and to protect the interest of advertisers, it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each Fellow on registration.

SECTION ON PRACTICE OF MEDICINE

MEETS IN ODEON THEATER

OFFICERS OF SECTION

Chairman—LEWELLYS F. BARKER, Baltimore.
Vice Chairman—WILLARD J. STONE, Pasadena, Calif.
Secretary—NELLIS B. FOSTER, New York.
Executive Committee—JAMES S. MCLESTER, Birmingham, Ala.; H. S. PLUMMER, Rochester, Minn.; LEWELLYS F. BARKER, Baltimore.

Wednesday, May 24—2 p. m.

1. A Study of Hypotension. STEWART R. ROBERTS, Atlanta.
2. A Clinical Study of Wassermann Reactions. LESTER J. PALMER, Seattle, Wash.
3. Observations on the Heart in Mothers and the New-Born. S. CALVIN SMITH, Philadelphia.
4. Relation Between Migraine and Epilepsy. JOHN PHILLIPS, Cleveland.
5. Quinidin Treatment of Auricular Fibrillation. WALTER W. HAMBURGER, Chicago.
6. Medical Technic. JOHN W. FLINN, Prescott, Ariz.
7. Obesity, Its Cause and Rational Treatment. C. LEE GRABER, Cleveland.

Thursday, May 25—2 p. m.

Election of Officers

8. Syphilis of the Lung. ALFRED FRIEDLANDER, Cincinnati.
9. The Treatment of Tetanus. WILLARD J. STONE, Pasadena, Calif.
10. An Evaluation of Therapeutic Procedures and the Discussion of the Pathogenesis of Grave's Syndrome. LEO KESSELL, New York.
11. Relation of the Pulse Rate and Pulse Pressure to Basal Metabolism. J. MARION READ, San Francisco.
12. Myocarditis and Its Management. WILLIAM A. JENKINS, Louisville, Ky.
13. The Diagnostic Value of Blood Fibrin Determinations with Special Reference to Disease of the Liver. JAMES S. MCLESTER, Birmingham, Ala.
14. Study of a Thousand Cases of Pneumonia in Bellevue Hospital. RUSSELL L. CECIL and N. P. LARSEN, New York.

Friday, May 26—2 p. m.

JOINT MEETING OF SECTIONS ON PRACTICE OF MEDICINE, ON PHARMACOLOGY AND THERAPEUTICS, AND ON PATHOLOGY AND PHYSIOLOGY

SYMPOSIUM ON INTERNAL SECRETIONS

15. Chairman's Address: Endocrinology LEWELLYS F. BARKER, Baltimore.
16. Conditions Controlling Internal Secretion. WALTER B. CANNON, Boston.
17. Metabolic Effects of the Glands of Internal Secretion. JOSEPH AUB, Boston.
18. Hypofunction and Hyperfunction of the Glands of Internal Secretion. A. J. CARLSON, Chicago.
19. Principles of Endocrinology Applicable to Organotherapy. R. G. HOSKINS, Columbus, Ohio.

Discussion of papers 15, 16, 17, 18 and 19 to be opened by WILLIAM ENGELBACH, St. Louis; L. G. ROWNTREE, Rochester, Minn.; JOSEPH C. CAPPS, Chicago, and H. S. PLUMMER, Rochester, Minn.

SECTION ON SURGERY, GENERAL AND ABDOMINAL

MEETS IN THIRD BAPTIST CHURCH

OFFICERS OF SECTION

Chairman—WALLACE I. TERRY, San Francisco.
Vice Chairman—DANIEL F. JONES, Boston.
Secretary—URBAN MAES, New Orleans.
Executive Committee—DEAN LEWIS, Chicago; GEORGE P. MULLER, Philadelphia; WALLACE I. TERRY, San Francisco.

Wednesday, May 24—9 a. m.

1. The Treatment of Recurrent Inoperable Carcinoma of the Breast by Means of Radium and Roentgen Ray (Lantern Demonstration). BURTON J. LEE, New York.
2. The New Short Wave Length Roentgen-Ray Therapy. JAMES T. CASE, Battle Creek, Mich.

Discussion of papers 1 and 2 to be opened by GEORGE E. PFAHLER, Philadelphia; THOMAS A. GROOVER, Washington, D. C., and CURTIS F. BURNAM, Baltimore.

3. The Treatment of Tuberculous Cervical Adenitis. RICHARD H. MILLER, Boston.

Discussion to be opened by R. H. BOGGS, Pittsburgh, and HARRY G. SLOAN, Cleveland.

4. The Immediate Closure Without Drainage of the Usual Compound Fracture of the Leg. T. TURNER THOMAS, Philadelphia.

Discussion to be opened by FORDYCE B. ST. JOHN, New York, and FRED W. BAILEY, St. Louis.

5. The Fate of the Necrosed Bone in Chronic Osteomyelitis. FREDERIC W. BANCROFT, New York.

Discussion to be opened by DENNIS W. CRILE, Chicago, and BARNEY BROOKS, St. Louis.

6. The Surgical Relief of Intestinal Foci of Infection in Cases of Arthritis Deformans.
REA SMITH, Los Angeles.
Discussion to be opened by RALPH PEMBERTON, Philadelphia, and JOHN W. DRAPER, New York.

Thursday, May 25—9 a. m.

Election of Officers

7. Chairman's Address. WALLACE I. TERRY, San Francisco.
8. The Treatment of Cancer of the Rectum.
ROBERT C. COFFEY, Portland, Ore.
Discussion to be opened by DAN F. JONES, Boston, and J. TATE MASON, Seattle, Wash.
9. The Desperate Risk Goiter.
MARTIN B. TINKER, Ithaca, N. Y.
10. The Causes of Surgical Failure in Hyperthyroidism.
J. EARL ELSE, Portland, Ore.
Discussion of papers 9 and 10 to be opened by GEORGE W. CRILE, Cleveland; WALTER M. BOOTHBY, Rochester, Minn., and FRANK H. LAHEY, Boston.
11. Results Following the Removal of Spinal Cord Tumors (Lantern Demonstration).
A. W. ADSON, Rochester, Minn.
Discussion to be opened by CHARLES H. FRAZIER, Philadelphia, and ERNEST SACHS, St. Louis.
12. Anesthesia; a Part-Time Specialty.
MOSES SALZER, Cincinnati.
Discussion to be opened by F. H. MCMECHAN, Avon Lake, Ohio, and A. E. GUEDEL, Indianapolis.
13. The Classification of Congenital Clefts of the Lip and Palate with Suggestions for Recording These Cases.
HARRY P. RITCHIE, St. Paul, and JOHN STAIGE DAVIS, Baltimore.
Discussion to be opened by JAMES E. THOMPSON, Galveston, Texas, and VILRAY P. BLAIR, St. Louis.

Friday, May 26—9 a. m.

JOINT MEETING OF THE SECTIONS ON SURGERY, GENERAL AND ABDOMINAL, AND ON GASTRO-ENTEROLOGY AND PROCTOLOGY

SYMPOSIUM ON PEPTIC ULCER

14. The Relative Value of Medical and Surgical Treatment of Gastric and Duodenal Ulcer and the Indication for Each. ARTHUR DEAN BEVAN, Chicago.
15. The Relative Value of Medical and Surgical Treatment in Gastric and Duodenal Ulcer.
BERTRAM W. SIPPY, Chicago.
16. Progress in the Handling of Peptic Ulcer.
W. J. MAYO, Rochester, Minn.
17. The Relative Rôles of Medical and Surgical Treatment in Gastric and Duodenal Ulcer.
THOMAS R. BROWN, Baltimore.
Discussion of papers 14, 15, 16 and 17 to be opened by J. M. T. FINNEY, Baltimore, and CHARLES G. STOCKTON, Buffalo.

SECTION ON OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

MEETS IN THIRD BAPTIST CHURCH

OFFICERS OF SECTION

Chairman—SIDNEY A. CHALFANT, Pittsburgh.
Vice Chairman—GORDON K. DICKINSON, Jersey City, N. J.
Secretary—CARL H. DAVIS, Milwaukee.
Executive Committee—REUBEN PETERSON, Ann Arbor, Mich.; JOHN O. POLAK, Brooklyn; SIDNEY A. CHALFANT, Pittsburgh.

Wednesday, May 24—2 p. m.

1. Chairman's Address: Some Gynecologic Misdemeanors.
SIDNEY A. CHALFANT, Pittsburgh.
2. Carbon Dioxid Inflation as Means of Determining Sterility in Women (Lantern Demonstration).
ROLAND S. CRON, Ann Arbor, Mich.
Discussion to be opened by I. C. RUBIN, New York.
3. Hydatidiform Mole and Chorioepithelioma—A Clinical and Pathologic Study. EMIL NOVAK, Baltimore.
Discussion to be opened by FRED TAUSSIG, St. Louis.
4. A Series of Five Hundred Cases of Myoma Uteri and Myopathic Hemorrhage Treated by Irradiation.
JOHN G. CLARKE and FLOYD E. KEENE, Philadelphia.
Discussion to be opened by N. S. HEANEY, Chicago.
5. The Treatment of Cystocele with Report of Cases (Lantern Demonstration). J. CRAIG NEEL, San Francisco.
6. The Cause and Cure of High Rectocele (Lantern Demonstration). ALFRED BAKER SPALDING, San Francisco.
7. The Technic of the Repair of Enterocele and Rectocele as an Entity and When Associated with Prolapse of the Uterus (Lantern Demonstration).
GEORGE GRAY WARD, JR., New York.
Discussion to be opened by T. J. WATKINS, Chicago.
8. A Clinical and Roentgenologic Study of the Minor Forms of Embolism Following Abdominal Operations (Lantern Demonstration).
L. R. WARTON and J. W. PIERSON, Baltimore.

Thursday, May 25—2 p. m.

9. Perforating Ulcer of the Cecum.
G. K. DICKINSON, Jersey City, N. J.
Discussion to be opened by DEAN LEWIS, Chicago.
10. Care of the Bladder During Pregnancy, Labor and the Puerperium. HAROLD W. SHUTTER, Milwaukee.
Discussion to be opened by ARTHUR H. CURTIS, Chicago.
11. A Contribution to the Problem of Nephritis and Nephrosis in Pregnancy. JOSEPH L. BAER, Chicago.
12. The Conservative Treatment of Toxemias of Pregnancy.
GEORGE W. KOSMAK, New York.
13. The Treatment of Toxemias During Pregnancy by Intravenous Injections of Glucose. PAUL TITUS, Pittsburgh.
Discussion to be opened by CHARLES PADDOCK, Chicago.
14. Results of the Low Cervical Cesarean Section (Laparotrachelotomy) in One Hundred and Twenty-Five Cases at the Chicago Lying-In Hospital (Lantern Demonstration). J. B. DELEE and E. L. CORNELL, Chicago.
15. The End Results of Cesarean Section.
E. L. KING, New Orleans.
Discussion opened by RUDOLPH W. HOLMES, Chicago, and HUGO EHRENFEST, St. Louis.

Friday, May 26—2 p. m.

Election of Officers

16. Retroverted Uterus: Incidence and Symptoms.
LEDA J. STACY, Rochester, Minn.
17. Frequency and Clinical Significance of Uterine Displacements. PALMER FINDLEY, Omaha.
18. So-Called Traumatic Uterine Displacements: Medicolegal Aspects of This Problem.
HARRY E. MOCK, Chicago.
Discussion to be opened by HARRY S. CROSSEN, St. Louis, and JOHN O. POLAK, Broolyn.
19. Is Death in Acute Intestinal Obstruction Due to a Hepatic Insufficiency? AXEL WERELIUS, Chicago.
20. The Cause and Relief of Acute Intestinal Obstruction.
C. H. MAYO, Rochester, Minn.
Discussion to be opened by BARNEY BROOKS, St. Louis, and J. L. YATES, Milwaukee.
21. Hypermetrophy (Fibrosis) of the Uterus.
WILLIAM E. DARNELL, Atlantic City, N. J.
Discussion to be opened by GEORGE GELLHORN, St. Louis.

SECTION ON OPHTHALMOLOGY

MEETS IN SHELDON MEMORIAL HALL

OFFICERS OF SECTION

Chairman—NELSON MILES BLACK, Milwaukee.
Vice Chairman—A. E. EWING, St. Louis.
Secretary—GEORGE S. DERBY, Boston
Executive Committee—ALLEN GREENWOOD, Boston; JAMES BORDLEY, JR., Baltimore; NELSON MILES BLACK, Milwaukee.

Fellows are reminded that the meetings of the Section will be called to order promptly on the hour scheduled for opening.

The formal reading of the papers will be omitted, as reprints of the papers on the program have already been delivered to Fellows.

Each essayist will be given ten minutes in which to summarize the points in his paper and introduce the discussion (except in the case of five minute papers), and five minutes in which to close the discussion.

The Fellows appointed to open the discussion of any paper will be allowed ten minutes. Subsequent speakers will be limited to five minutes.

The papers and all discussions will be printed and bound, forming the Transactions of the Section on Ophthalmology for 1922. Copies of the Transactions may be obtained at $1.50 each, if subscriptions are sent to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 535 North Dearborn Street, Chicago, by June 1, 1922, as only enough copies are printed

to cover subscriptions received up to the time of going to press.

Fellows are requested to register in the Section registration book at the entrance. The full name and complete post-office address should be written plainly.

Wednesday, May 24—9: 00 a. m.

1. Chairman's Address.
NELSON MILES BLACK, Milwaukee, Wis.
2. A Further Note on Rapid Dilatation in the Radical Treatment of Lacrimonasal Disease.
S. LEWIS ZIEGLER, Philadelphia.
3. The Retinitis of Hypertension Plus Nephritis.
WILLIAM L. BENEDICT, Rochester, Minn.
Discussion to be opened by WALTER B. LANCASTER, Boston.
4. The Fundus Changes in Nephritis.
JOSEPH L. BEHAN, Brooklyn.
Discussion to be opened by GEORGE SLOCUM, Ann Arbor, Mich.
5 The Significance of Pathologic Changes in the Fundus in General Arterial and Kidney Diseases.
MARTIN COHEN, New York.
Discussion to be opened by ALBERT E. BULSON, JR., Fort Wayne, Ind.
6. A Method of Examining Cases of Recurrent Hemorrhages into the Retina and Vitreous of Young Persons.
WILLIAM C. FINNOFF, Denver.
Discussion to be opened by WILLIAM ZENTMAYER, Philadelphia.
7. Industrial Ophthalmology: A Survey of Twenty-Five Thousand Cases. V. E. VAN KIRK, Pittsburgh.
Discussion to be opened by GEORGE H. CROSS, Chester, Pa.
8. A Series of Ophthalmologic Cases Illustrating Various Methods in Plastic Surgery for Correction of Deformities Due to Injury with a Resulting Loss of Tissue (Lantern Demonstration).
EDMUND B. SPAETH, Washington, D. C.
Discussion to be opened by HAROLD GIFFORD, Omaha, Neb.

Thursday, May 25—9 a. m.

DEMONSTRATION SESSION: EXHIBITION OF NEW INSTRUMENTS AND APPLIANCES

9. The Coefficient of Thermal Conductivity of the Eye and Orbit, Measured with Warm Applications.
LUCIEN HOWE, Buffalo.
Discussion to be opened by WILLIAM E. SHAHAN, St. Louis.
10. Vaccinia of the Eyelids by Homo-Inoculation.
JAMES MOORES BALL and NOXON TOOMEY, St. Louis.
11. Examination of the Eye by Direct Sunlight.
EDWARD JACKSON, Denver.
Discussion to be opened by MARCUS FEINGOLD, New Orleans.
12. The Iris in Health and Disease as Seen with the Slit Lamp. ARTHUR J. BEDELL, Albany, N. Y.
Discussion to be opened by HARRY S. GRADLE, Chicago.
13. Some Ophthalmologic Manifestations of Diseases of the Nervous System. JOSEPH P. ISRAEL, Houston, Texas.
Discussion to be opened by GEORGE H. BELL, New York.
14. Intracapsular Operations for Cataract in North America (Lantern Demonstration).
JOHN O. MCREYNOLDS, Dallas, Texas.
Discussion to be opened by ALLEN GREENWOOD, Boston.
15. Zonule Protection in Cataract Extraction.
A. E. EWING, St. Louis.
16. Blindness in Missouri as Revealed by Examinations Under the State Blind Pension Law of 1921.
H. D. LAMB, St. Louis.
Discussion to be opened by F. PARK LEWIS, Buffalo.

Friday, May 26—9 a. m.

Executive Session
Election of Officers
Reports of Committees

17. The Localization and Extraction of Intra-Ocular Foreign Bodies. JAMES M. PATTON, Omaha.
Discussion to be opened by FRANK BURCH, St. Paul.
18. An Unusual Orbital Tumor.
WALTER SCOTT FRANKLIN and FREDERICK C. CORDES, San Francisco.
19. Central Retinitis with Recovery of Normal Vision.
W. H. LUEDDE and J. F. HARDESTY, St. Louis.
Discussion to be opened by GREENFIELD SLUDER, St. Louis.
20. Focal Infection in the Tonsil Causing a Tuberculous Ophthalmia (Lantern Demonstration).
CECIL M. JACK, Decatur, Ill.
21. The Importance of Heterophoria Tests in Routine Refraction. H. H. BRIGGS, Asheville, N. C.
Discussion to be opened by G. C. SAVAGE, Nashville, Tenn.
22. Spasm of the Accommodation with Report of Thirty Cases.
AVERY D. PRANGEN, Rochester, Minn.
Discussion to be opened by WALTER R. PARKER, Detroit.
23. The Advantages of the Use of Minus Cylinders in Routine Refractions. JOSEPH D. HEITGER, Louisville.
Discussion to be opened by JOHN GREEN, JR., St. Louis.
24. Present Day Status of Squint Surgery—a New Operative Technic. OSCAR WILKINSON, Washington, D. C.
Discussion to be opened by M. M. CULLOM, Nashville, Tenn.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

MEETS IN SHELDON MEMORIAL HALL

OFFICERS OF SECTION

Chairman—J. A. STUCKY, Lexington, Ky.
Vice Chairman—THOMAS E. CARMODY, Denver.
Secretary—WILLIAM B. CHAMBERLIN, Cleveland.
Executive Committee—JOSEPH C. BECK, Chicago; Ross H. SKILLERN, Philadelphia, and J. A. STUCKY, Lexington, Ky.

Wednesday, May 24—2 p. m.

1. Chairman's Address. J. A. STUCKY, Lexington, Ky.
2. A Comparative Study of the Ethmoidal and Sphenoidal Operations (Lantern Demonstration).
JOHN J. SHEA, Memphis, Tenn.
Discussion to be opened by WILLIAM V. MULLIN, Colorado Springs, Colo.
3. The Nasopharyngeal Syndrome (Lantern Demonstration). GORDON B. NEW, Rochester, Minn.
Discussion to be opened by H. W. F. WOLTMAN and W. L. BENEDICT, Rochester, Minn.
4. Observations on the Effects of Intratracheal Medication on Gas Burns of the Respiratory Tract.
LAFAYETTE PAGE, Indianapolis.
Discussion to be opened by ROSS HALL SKILLERN, Philadelphia.
5. An Experiment in Graduate Training in Otolaryngology.
GEORGE E. SHAMBAUGH, Chicago.
Discussion to be opened by JOSEPH C. BECK, Chicago.
6. Pharyngeal Insufflation Anesthesia (Lantern Demonstration). ALBERT H. MILLER, Providence, R. I.
Discussion to be opened by F. NOLTON BIGELOW, Providence, R. I.
7. Condensed and Accurate Charting of Examination and Diagnosis of Ear, Nose, Throat and Teeth (Lantern Demonstration). W. PERRY REAVES, Greensboro, N. C.
Discussion to be opened by JOSEPH D. HEITGER, Louisville, Ky.

Thursday, May 25—2 p. m.

8. The Future of the Blood Clot Dressing in Mastoid Surgery. GEORGE E. DAVIS, New York.
Discussion to be opened by GEORGE W. MACKENZIE, Philadelphia.
9. The Practical Diagnostic Value of Tests of the Vestibular Mechanism (Lantern Demonstration).
FRANK L. DENNIS, Colorado Springs, Colo.
Discussion to be opened by LEWIS FISHER, Philadelphia.
10. Determination of Disability as to Loss of Hearing and the Importance of Vertigo in Industrial Accident Cases.
HAROLD FLETCHER, San Francisco.
Discussion to be opened by JOHN F. BARNHILL, Indianapolis.
11. Otalgia and Mastoidalgia Not Indications for the Mastoid Operation. H. I. LILLIE, Rochester, Minn.
Discussion to be opened by GEO. M. COATES, Philadelphia.
12. Mastoiditis Hyperplastica Serosa.
J. W. JERVEY, Greenville, S. C.
Discussion to be opened by R. C. LYNCH, New Orleans.
13. Meningitis of Otitic Origin: A Statistical Study Based on Sixty-Three Cases Observed at Cook County Hospital During the Decade from 1911 to 1920, Inclusive.
C. F. YERGER, Chicago.
Discussion to be opened by NORVAL H. PIERCE, Chicago.

Friday, May 26—2 p. m.

Election of Officers

Exhibition of New Instruments and Appliances

Report of Committees

Education of the Deaf Child.
C. W. RICHARDSON, Washington, D. C., Chairman; ELMER E. KENYON, Chicago; M. A. GOLDSTEIN, St. Louis.

Postgraduate Teaching.
HARRIS P. MOSHER, Boston, Chairman; L. W. DEAN, Iowa City; ROBERT LEVY, Denver.

Necrology.
EMIL MAYER, New York, Chairman; T. J. HARRIS, New York; WILLIAM B. CHAMBERLIN, Cleveland.

The Use of Caustic Alkalis.
CHEVALIER JACKSON, Philadelphia, Chairman; GEORGE W. MACKENZIE, Philadelphia; FIELDING O. LEWIS, Philadelphia.

14. Bronchoscopic Observations on the Cough-Reflex in Health and Disease (Lantern Demonstration).
CHEVALIER JACKSON, Philadelphia.
Discussion to be opened by SAMUEL IGLAUER, Cincinnati.

15. A Case of Optic Neuroretinitis Caused by Pressure in the Attic of the Nose and Cured by Relief of the Pressure.
ROBERT H. COWLEY, Berea, Ky.
Discussion to be opened by H. H. BRIGGS, Asheville, N. C., and MURISON DUNN, Richmond, Ky.

16. The Physiologic Basis for Certain Disturbances in the Action of the Larynx.
ELMER L. KENYON, Chicago.
Discussion to be opened by SMILEY BLANTON, Madison, Wis.

17. The Need of Standards of Training for Specialists, General Practitioners and Teachers of Speech Correction (Moving Picture Demonstration).
CHARLES G. STIVERS, Los Angeles.
Discussion to be opened by BURT R. SHURLEY, Detroit.

18. The Correction of External Deformities of the Nose Through the Intranasal Approach (Moving Picture Demonstration). SIDNEY ISRAEL, Houston, Texas.
Discussion to be opened by THOMAS E. CARMODY, Denver.

SECTION ON DISEASES OF CHILDREN

MEETS IN ODEON THEATER

OFFICERS OF SECTION

Chairman—EMANUEL C. FLEISCHNER, San Francisco.
Vice Chairman—WILLIAM A. MULHERIN, Augusta, Ga.
Secretary—EDGAR J. HUENEKENS, Minneapolis.
Executive Committee—FRITZ B. TALBOT, Boston; FRANK C. NEFF, Kansas City, Mo.; EMANUEL C. FLEISCHNER, San Francisco.

Wednesday, May 24—9 a. m.

1. Hyperacidity of the Stomach Contents in Children (Lantern).
CHARLES GILMORE KERLEY and EDWARD J. LORENZE, JR., New York.
Discussion to be opened by JOHN ZAHORSKY, St. Louis.

2. Immunity Results Obtained with Mixture of Diphtheria Toxin-Antitoxin in the Public Schools of New York City (Manhattan and the Bronx and in various institutions). ABRAHAM ZINGHER, New York.
Discussion to be opened by FRANK C. NEFF, Kansas City, and E. C. FLEISCHNER, San Francisco.

3. Physical Unfitness in Children (with Slides).
WILLIAM R. P. EMERSON, Boston.
Discussion to be opened by W. H. O. HOFFMANN, Chicago.

4. Effects of Tonsillectomy on General Health in Five Thousand Children. ALBERT D. KAISER, Rochester, N. Y.
Discussion to be opened by JULIUS H. HESS, Chicago.

5. Neurosurgical Problems in Childhood.
HOWARD C. NAFFZIGER, San Francisco.
Discussion to be opened by ALFRED W. ADSON, Rochester, Minn.

6. Diabetes Mellitus in Children Following Infection.
H. LEONARD BOLEN, Chicago.
Discussion to be opened by CHARLES G. KERLEY, New York, and FRITZ B. TALBOT, Boston.

Thursday, May 25—9 a. m.

7. Chairman's Address. E. C. FLEISCHNER, San Francisco.

8. An Analysis of Private Case Records with Reference to Certain Phases of Breast Feeding.
HENRY DIETRICH, Los Angeles.
Discussion to be opened by I. A. ABT, Chicago.

9. A Study of Milk Ingestion in Relation to Changes in the Body-Weight of New-Born Infants.
F. L. ADAIR and C. A. STEWART, Minneapolis.
Discussion to be opened by F. W. SCHLUTZ, Minneapolis.

10. Gastric Findings in Children with Anorexia.
LOUIS W. SAUER, L. D. MINSK and W. G. ALEXANDER, Evanston, Ill.
Discussion to be opened by B. S. VEEDER, St. Louis.

11. A Comparative Chemical and Clinical Study of Boiled Butter and Cream in Infant Feeding: Report of Cases (Lantern Demonstration).
HARRY LOWENBURG, Philadelphia.
Discussion to be opened by I. A. ABT, Chicago.

12. A Study in an Asylum on the Physical and Mental Status of Its Inmates.
L. R. DEBUYS and MAUD LOEBER, New Orleans.
Discussion to be opened by O. W. ROWE, Duluth.

Friday, May 26—9 a. m.

Election of Officers.

13. A Few Observations on Malaria in Infancy.
W. A. MULHERIN and F. X. MULHERIN, Augusta, Ga.
Discussion to be opened by WILLIAM WESTON, Columbia, S. C., and J. Ross SNYDER, Birmingham, Ala.

14. Experimental Studies of the A Vitamin: Clinical and Anatomic Effects in Puppies and Rats.
C. ULYSSES MOORE, Portland, Ore.
Discussion to be opened by E. A. PARK, New Haven, Conn.

15. The Use of Radiant—Heat—Light—in the Treatment of Otitis Media. H. J. GERSTENBERGER, Cleveland.

16. Drug Therapy in Pyelitis.
H. F. HELMHOLZ, Rochester, Minn.
Discussion to be opened by W. McKIM MARRIOTT, St. Louis, and F. C. RODDA, Minneapolis.

17. Urologic Problems in Pediatrics.
HERMAN KRETSCHMER, Chicago.
Discussion to be opened by CLIFFORD G. GRULEE and CHARLES SCHOTT, Chicago.

18. Observations on the Etiology and Pathology of Chorea in Childhood. LOUIS C. SCHROEDER, New York.
Discussion to be opened by H. F. HELMHOLZ, Rochester, Minn.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

MEETS IN ODEON THEATER BUILDING

OFFICERS OF SECTION

Chairman—CARL VOEGTLIN, Washington, D. C.
Vice Chairman—CARY EGGLESTON, New York.
Secretary—PAUL D. WHITE, Boston.
Executive Committee—GEORGE W. McCOY, Washington, D. C.; LEONARD G. ROWNTREE, Rochester, Minn.; CARL VOEGTLIN, Washington, D. C.

Wednesday, May 24—9 a. m.

1. Chairman's Address: Chemotherapy.
CARL VOEGTLIN, Washington, D. C.

2. The Therapeutic Use of Oxygen.
ALVAN L. BARACH, New York.

3. The Pharmacology of Mercury.
WILLIAM SALANT, Augusta, Ga.

4. The Treatment of Hypertension.
NELLIS B. FOSTER, New York.

5. The Present Status of the Treatment of Tuberculosis.
F. M. POTTENGER, Monrovia, Calif.

6. Optimal Food Mixtures for Diabetic Patients.
RUSSELL M. WILDER, Rochester, Minn.

Thursday, May 25—9 a. m.

Election of Officers.

7. The Therapeutic Use of Dyes.
JOHN W. CHURCHMAN, New York.

8. Quartz Light Therapy.
E. LAWRENCE OLIVER, Boston.

9. Physiologic Chemistry of Iodids.
E. D. OSBORNE, Rochester, Minn.

10. Present Status of the Use of Drugs in Heart Disease, with Especial Reference to Quinidin.
PAUL D. WHITE, Boston.
11. The Present Status of Radiotherapy, with Particular Reference to Intensive Roentgen-Ray Treatment.
SAMUEL STERN, New York.
12. Clinical and Laboratory Investigations of the Effect of Drugs on the Involuntary Nervous System.
C. C. LIEB and H. T. HYMAN, New York.

Friday, May 26—2 p. m.

JOINT MEETING OF SECTIONS ON PRACTICE OF MEDICINE, ON PHARMACOLOGY AND THERAPEUTICS, AND ON PATHOLOGY AND PHYSIOLOGY

SYMPOSIUM ON INTERNAL SECRETIONS

13. Endocrinology.
LEWELLYS F. BARKER, Baltimore.
14. Conditions Controlling Internal Secretion.
WALTER B. CANNON, Boston.
15. Metabolic Effects of the Glands of Internal Secretion.
JOSEPH C. AUB, Boston.
16. Hypofunction and Hyperfunction of the Glands of Internal Secretion. A. J. CARLSON, Chicago.
17. Principles of Endocrinology Applicable to Organotherapy.
R. G. HOSKINS, Columbus, Ohio.

SECTION ON PATHOLOGY AND PHYSIOLOGY

MEETS IN ODEON THEATER BUILDING

OFFICERS OF SECTION

Chairman—JOHN A. KOLMER, Philadelphia.
Secretary—JOSIAH J. MOORE, Chicago.
Executive Committee—HOWARD T. KARSNER, Cleveland; EDWIN R. LECOUNT, Chicago; JOHN A. KOLMER, Philadelphia.

Wednesday, May 24—2 p. m.

1. Chairman's Address: State Licensure Applied to Technicians, JOHN A. KOLMER, Philadelphia.
2. Standardization of Diagnostic Laboratories.
JOSIAH J. MOORE, Chicago.
3. Intestinal Rate and the Form of the Feces.
FRANCIS LOWELL BURNETT, Boston.
4. Does Cancer Arise in Gastric Ulcer?
WILLIAM CARPENTER MACCARTY, Rochester, Minn.
5. Acute Dilatation of Stomach.
LESTER DRAGSTEDT, Chicago.
6. Pulmonary Aspiration of Particular Matter Normally and During Anesthesia. HARRY J. CORPER, Denver.
7. A Study on the Relation of the Thyroid to the Pancreatic Diabetes in Dogs.
G. A. FRIEDMAN and JULIUS GOTTESMAN, New York.

Thursday, May 25—2 p. m.

Election of Officers.

8. The Production of Arteriosclerosis in Rabbits Caused by Feeding Diets Rich in Animal Proteins.
L. H. NEWBURGH, Ann Arbor, Mich.
9. The Congenital Factor in Chronic Renal Disease.
EDWARD WEISS, Philadelphia.
10. Discussion of Secondary Hemorrhages in the Brain.
EDWIN R. LECOUNT, Chicago.
11. Diagnosis and Pathologic Physiology of Beginning Myocardial Inefficiency.
M. A. MORTENSEN, Battle Creek, Mich.
12. Cultivation of Trichomonas and the Question of Specific Differentiation. KENNETH M. LYNCH, Dallas, Texas.
13. Recent Additions to the Knowledge of Ascariasis.
B. H. RANSOM, Washington, D. C.
14. Pneumococcus Antibody Solutions Specific Against Types I, II and III.
F. M. HUNTOON, Glenolden, Pa.

Friday, May 26—2 p. m.

JOINT MEETING OF THE SECTIONS ON PRACTICE OF MEDICINE, ON PHARMACOLOGY AND THERAPEUTICS AND ON PATHOLOGY AND PHYSIOLOGY

SYMPOSIUM ON INTERNAL SECRETIONS

15. Endocrinology. LEWELLYS F. BARKER, Baltimore.
16. Conditions Controlling Internal Secretion.
WALTER B. CANNON, Boston.
17. Metabolic Effects of the Glands of Internal Secretion.
JOSEPH C. AUB, Boston.
18. Hypofunction and Hyperfunction of the Glands of Internal Secretion. A. J. CARLSON, Chicago.
19. Principles of Endocrinology Applicable to Organotherapy.
R. G. HOSKINS, Columbus, Ohio.

Discussion to be opened by WILLIAM ENGELBACH, St. Louis; L. G. ROWNTREE, Rochester, Minn.; DAVID L. EDSALL and J. HOWARD MEANS, Boston; JOSEPH A. CAPPS, Chicago, and GEORGE DRAPER, New York.

SECTION ON STOMATOLOGY

MEETS IN PARISH HOUSE, ST. PETER'S EPISCOPAL CHURCH

OFFICERS OF SECTION

Chairman—HERBERT A. POTTS, Chicago.
Vice Chairman—ROBERT H. IVY, Philadelphia.
Secretary—GEORGE V. I. BROWN, Milwaukee.
Delegate—EUGENE S. TALBOT, Chicago.
Executive Committee—VILRAY P. BLAIR, St. Louis; HENRY S. DUNNING, New York; HERBERT A. POTTS, Chicago.
(Reporter—MISS MARGARET MALONEY)

Wednesday, May 24—2 p. m.

1. What Teeth Should Be Extracted?
ARTHUR D. BLACK, Chicago.
2. Orthodontia. Six-Year-Old Molar. Early Recognition of Maleruption. Sequela.
FREDERICK B. NOYES, Chicago.
3. Infections and Inflammation of the Investing Tissues of the Teeth-Gingivae, Peridental Membrane, Cementum and Alveolar Process. HERBERT A. POTTS, Chicago.
4. Studies on Decalcification of the Teeth and Bones and Regeneration of Bone Through the Diet.
PERCY R. HOWE, Boston.
5. The Effect of Improperly Balanced Diet.
E. V. MCCOLLUM, Baltimore.
6. The Effect of Defective Diets and Teeth on the Calcium Phosphorus and Organic Factors Balance Carriers Like Attaching Tissue and Maxillary Defects.
CLARENCE J. GRIEVES, Baltimore.
7. Structure of Bone in Relation to Diet: The Calcium Phosphorus and Organic Factors Balance in Rickets and Relative Conditions.
PAUL G. SHIPLEY, Baltimore.

Thursday, May 25—2 p. m.

8. Studies on the Habitat and Pathogenicity of B. Fusiformis.
D. J. DAVIS and ISADORE PILOT, Chicago.
9. Observation of Fractures of the Mandible.
ROBERT H. IVY, Philadelphia.
10. The Treatment of Nonunion of Fractures of the Mandible by Free Bone Grafts (Lantern Demonstration).
FULTON RISDON, Toronto, Canada.
11. Anatomic and Prosthetic Factors Involved in the Development and Correction of Extensive Cysts of the Maxilla (Lantern Demonstration).
HUGH W. MACMILLAN, Cincinnati.
12. Syphilis of the Mouth.
WILLIAM ALLEN PUSEY, Chicago.
13. The Pathologic Significance of the More Frequent Tumors of the Mouth and Jaws (Lantern Demonstration).
MORRIS I. SCHAMBERG, New York.

Friday, May 26—2 p. m.

Election of Officers

14. Prophylaxis of Malignant Growths of the Mouth, Face and Jaws. JOSEPH RILUS EASTMAN, Indianapolis.
15. Cancer of the Tongue: Some Pitfalls in Diagnosis and Treatment.
WILLIAM SEAMAN BAINBRIDGE, U. S. NAVY, New York.
16. Atypical Operation for Tumors of Mouth and Jaw.
LEWIS L. MCARTHUR, Chicago.
17. Electrocoagulation of Malignant Tumors of the Mouth and Oropharynx and the Effect of This Procedure upon Large Adjacent Blood Vessels and Nerves.
F. J. NOVAK, Chicago.

Discussion on Papers 14, 15, 16 and 17 to be opened by ALBERT J. OCHSNER, Chicago; JOSEPH BLOODGOOD, Baltimore; GORDON NEW, Rochester, Minn., and THOMAS L. GILMER, Chicago.

SECTION ON NERVOUS AND MENTAL DISEASES

MEETS IN ST. LOUIS UNIVERSITY LAW SCHOOL AUDITORIUM

OFFICERS OF SECTION

Chairman—PETER BASSOE, Chicago.
Vice Chairman—WALTER F. SCHALLER, San Francisco.
Secretary—JAMES B. AYER, Boston.
Executive Committee—ARCHIBALD CHURCH, Chicago; ARTHUR S. HAMILTON, Minneapolis; PETER BASSOE, Chicago.

Wednesday, May 24—9 a. m.

1. Chairman's Address. PETER BASSOE, Chicago.
2. Work and Plans of the National Committee for Mental Hygiene. FRANKWOOD E. WILLIAMS, New York.
3. A Study in Constitutional Psychopathic Inferiority. JOHN W. VISHER, Waukesha, Wis.
4. The Rôle of So-Called Physical Therapeutics in Nervous and Mental Disease. J. MADISON TAYLOR, Philadelphia.
5. The Diagnosis of Epilepsy. HUGH T. PATRICK and DAVID M. LEVY, Chicago.
6. Further Experiences with Luminal in Epilepsy. JULIUS GRINKER, Chicago.
7. Methyl Alcohol Intoxication. A. L. SKOOG, Kansas City, Mo.

Thursday, May 25—9 a. m.

8. Magnus and de Kleijn Phenomena in Brain Lesions of Man. I. LEON MEYERS, Los Angeles.
9. Experimental Vestibular Tremors. C. L. WOOLSEY, Boston.
10. The Localization of Brain Tumors. WALTER E. DANDY, Baltimore.
11. Mixed-Cell Sarcoma of the Brain, with Recovery Following Third Operative Interference. LEO M. CRAFTS, Minneapolis.
12. Glioma of the Cerebral Hemispheres. A Comparative Study of Two Cases. TOM B. THROCKMORTON, Des Moines, Iowa.
13. Malignant Tumors of the Nasopharynx with Extension to the Nervous System. HENRY W. WOLTMAN, Rochester, Minn.
14. Review of a Series of Operable Tumors of the Spinal Cord from the Standpoint of Diagnosis and Technic. CHARLES H. FRAZIER, Philadelphia.
15. Some Experimental Data Concerning the Circulation of the Cerebrospinal Fluid. H. C. SOLOMON and LLOYD J. THOMPSON, Boston.

Friday, May 26—9 a. m.

Election of Officers

16. What Adavantages Are to Be Gained by Adding to Our Present Conception of Muscular Movements Some Terminology Indicating Their Embryologic Grouping and Nerve Supply? WALTER M. KRAUS, New York.
17. Accessory Muscle Movements in Deltoid Paralysis. LEWIS J. POLLOCK, Chicago.
18. Results of Experimental Study in the Etiology of Epidemic Encephalitis. E. C. ROSENOW, Rochester, Minn.
19. The Sequelae of Epidemic Encephalitis. WILLIAM HOUSE, Portland, Ore.
20. Psychoses Associated with Sydenham's Chorea. E. M. HAMMES, St. Paul.
21. Heart and Arch in Neurosyphilis. CHARLES A. MCDONALD, Providence, R. I.
22. The Midbrain in Neurosyphilis. GEORGE M. ECKEL, Hot Springs, Ark.
23. Pellagra: A Neuropathologic Study. LAWSON G. LOWREY, Iowa City.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

MEETS IN UNION METHODIST EPISCOPAL CHURCH

OFFICERS OF SECTION

Chairman—ERNEST DWIGHT CHIPMAN, San Francisco.
Vice Chairman—HARRY G. IRVINE, Minneapolis.
Secretary—HAROLD NEWTON COLE, Cleveland.
Executive Committee—OLIVER S. ORMSBY, Chicago; WALTER J. HIGHMAN, New York; ERNEST DWIGHT CHIPMAN, San Francisco.

Wednesday, May 24—9 a. m.

SYMPOSIUM ON SYPHILIS

1. Chairman's Address. ERNEST DWIGHT CHIPMAN, San Francisco.
2. A Statistical Report on the Examination of 460 Cases with Genital Lesions. JAMES R. DRIVER, Cleveland.
3. The Kahn Precipitin Test in the Diagnosis of Syphilis. H. L. KEIM and UDO J. WILE, Ann Arbor, Mich.
4. Studies in Asymptomatic Neurosyphilis. IV. The Apparant Rôle of Immunity in the Genesis of Neurosyphilis. ALBERT KEIDEL, Baltimore.
5. A New Mercurial for the Intravenous Treatment of Syphilis: First Report of Chemical, Animal, and Clinical Experiments and Results. E. C. WHITE, J. H. HILL, J. E. MOORE, and H. H. YOUNG, Baltimore. Discussion to be opened by MARTIN F. ENGMAN, St. Louis; MIHRAN B. PAROUNAGIAN, New York, and RICHARD L. SUTTON, Kansas City, Mo.
6. Ulcerating Granuloma (Granuloma Inguinale) (Lantern Demonstration). HERMAN GOODMAN, New York. Discussion to be opened by JOSEPH GRINDON, St. Louis.
7. Sporotrichoses. FRANK W. CREGOR, Indianapolis.
8. Pityriasis Rubra Pilaris—Familial Type. ERWIN P. ZEISLER, Chicago.

Thursday, May 25—9 a. m.

9. Lupus Erythematosus Acutus Disseminatus Hemorrhagicus. MOSES SCHOLTZ, Los Angeles.
10. Leukoplakia (Lantern Demonstration). H. H. HAZEN and F. J. EICHENLAUB, Washington, D. C.
11. Local Blastomycosis. MARCUS HAASE, CLEMENT H. MARSHALL and E. R. HALL, Memphis, Tenn. Discussion to be opened by M. L. GRAVES, Galveston, Texas, and FRANCIS E. SENEAR, Chicago.
12. Experience with Chaulmoogra Oil Derivatives in the Treatment of Leprosy at San Francisco. HOWARD I. MORROW, ERNEST L. WALKER and HIRAM E. MILLER, San Francisco. Discussion to be opened by WILLIAM T. CORLETT, Cleveland.
13. The Physical Principles Underlying the Development of High Voltage Roentgen-Ray Apparatus. C. N. MOORE, Schenectady, N. Y.
14. Industrial Dermatoses at the Massachusetts General Hospital. C. GUY LANE, Boston.
15. A Peculiar Discoloration of the Skin Probably Resulting from Mercurial Compounds (Calomel) in Proprietary Face Creams. W. H. GOECKERMAN, Rochester, Minn.

Friday, May 26—9 a. m.

Election of Officers.

SYMPOSIUM ON MALIGNANCY

16. The Tissue Reaction in Malignant Epitheliomas of the Skin: Its Value in Diagnosis and in Prognosis (Lantern Demonstration). HOWARD JAMES PARKHURST, Toledo, Ohio.
17. Expectancy in Roentgen Treatment of Skin Lesions from the Pathologic Standpoint. WALTER JAMES HIGHMAN and RAY H. RULISON, New York.
18. Carcinoma of the Tongue and Its Treatment with Radium. LAURENCE TAUSSIG, San Francisco.
19. Surgical Treatment of Cancer of the Lip (Lantern Demonstration). JOSEPH C. BLOODGOOD, Baltimore.
20. Treatment of Cancer of the Lip by Electrocoagulation (Lantern Demonstration). G. E. PFAHLER, Philadelphia.
21. The Treatment of Cancer of the Lip by Radiotherapy. EVERETT S. LAIN, Oklahoma City. Discussion to be opened by WILLIAM ALLEN PUSEY, Chicago; DOUGLASS A. QUICK, New York, and WILLIAM H. MOOK, St. Louis.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

MEETS IN MUSICIANS' HALL

OFFICERS OF SECTION

Chairman—S. W. WELCH, Montgomery, Ala.
Vice Chairman—BERNARD W. CAREY, Boston.
Secretary—WALLER S. LEATHERS, University, Miss.
Executive Committee—JAMES A. HAYNE, Columbia, S. C.; JOHN D. McLEAN, Philadelphia; S. W. WELCH, Montgomery, Ala.

Wednesday, May 24—9 a. m.

1. Chairman's Address: Training in Sociology and Public Health an Essential in Medical Education. S. W. WELCH, Montgomery, Ala.
2. The County as a Health Unit. A. J. WARREN, Topeka, Kan.
3. Obligations of Preventive Medicine. JOHN D. McLEAN, Harrisburg, Pa.
4. The Attitude of the General Practitioner Toward Established and Progressive Health Policies. W. A. DEARMAN, Long Beach, Miss.
5. The Mutual Interest of Profession and Public. W. S. RANKIN, Raleigh, N. C.
6. Politics and the Health Officer. MATTHIAS NICOLL, Albany, N. Y.
7. Some Reflections on the Recent Education of Health Officers' Conference. OTTO GEIER, Cincinnati.

Thursday, May 25—9 a. m.

8. Community Health Fundamentals. JOHN DILL ROBERTSON, Chicago.
9. Tuberculosis Among the ex-Service Men, with Special Reference to Its Bearing on Public Health. H. S. CUMMING, Washington, D. C.
10. The Contribution of University Health Services to Public Health. J. HOWARD BEARD, Urbana, Ill.
11. Legal Status of Physicians and Sectarians. FREDERICK R. GREEN, Chicago.
12. Immunization Against Diphtheria and the Use of Toxin-Antitoxin. WILLIAM H. PARK, New York.
13. Seasonal Distributions of Deaths and Some Conclusions Based Thereon. W. A. EVANS, Chicago.
14. Study of Ancylostomiasis on Brazilian Coffee Fazendas. WILSON G. SMILLIE, São Paulo, Brazil.
15. Detection of Typhoid Carriers with Report of Four Outbreaks. JOSEPH N. GEHLEN, Minneapolis.

Friday, May 26—9 a. m.

Election of Officers.

16. A Discussion of Malaria Control Operations in the Ultimate Suppression of the Disease. C. C. BASS, New Orleans.
17. Health Work of the League of Nations. WICKLIFFE ROSE, New York.
18. Nutrition of the Schoolchild. TALIAFERRO CLARK, Washington, D. C.
19. The Sheppard-Towner Act in Relation to Public Health. ANNA E. RUDE, Washington, D. C.
20. Some Notes on the Effectiveness of the Venereal Disease Program. HARRY GARFIELD IRVINE, Minneapolis.
21. Health Centers of the Massachusetts-Halifax Health Commission. B. FRANKLIN ROYER, Halifax, Nova Scotia.
22. Acclimatization and Mortality Problems of the South American Tropics. FREDERICK L. HOFFMAN, Newark, N. J.

SECTION ON UROLOGY

MEETS IN UNION METHODIST EPISCOPAL CHURCH

OFFICERS OF SECTION

Chairman—JAMES A. GARDNER, Buffalo.
Vice Chairman—A. J. CROWELL, Charlotte, N. C.
Secretary—HERMAN L. KRETSCHMER, Chicago.
Executive Committee—WILLIAM E. LOWER, Cleveland; RICHARD F. O'NEIL, Boston; JAMES A. GARDNER, Buffalo.

Wednesday, May 24—2 p. m.

1. The Nitrogen Retention in Bright's Disease: Its Significance for Diagnosis and Prognosis. HILDING BEGLUND, Stockholm, Sweden.
2. Present Status of Blood Chemistry in Surgical Lesions of the Kidney. JOHN R. CAULK and WILLIAM OLMSTED, St. Louis.
3. The Significance of Chemical Blood Findings in Urologic and Allied Conditions. J. BENTLEY SQUIER, New York.
4. The Value of the Estimation of the Blood Content of Urea, Nonprotein Nitrogen, Creatinin and Carbon Dioxid as an Index of Renal Function. J. T. GERAGHTY and WILLIAM A. FRONTZ, Baltimore.
5. The Relative Value of Indigocarmin as a Functional Kidney Test and Blood Chemistry in Urological Surgery. B. A. THOMAS, Philadelphia.

   Discussion on Papers 1, 2, 3, 4 and 5 to be opened by L. G. ROWNTREE, Rochester, Minn.; WILLIAM ENGELBACH, St. Louis; HUGH CABOT, Ann Arbor, Mich., and VICTOR C. MEYERS, New York.
6. The Treatment of Urinary Incontinence in the Female. EDWARD L. YOUNG, JR., Boston.

   Discussion to be opened by HUGH CABOT, Ann Arbor, Mich.
7. Hematurias of Obscure Origin. A. RAYMOND STEVENS, New York.

   Discussion to be opened by HERMAN L. KRETSCHMER, Chicago.

Thursday, May 25—2 p. m.

8. Chairman's Address: Socialistic Tendencies in Medicine. JAMES A. GARDNER, Buffalo.
9. Intravesical Management of Obstructions in the Ureter, with Special Reference to Stone and Stricture. H. W. E. WALTHER, New Orleans.

   Discussion to be opened by L. R. WHARTON, Baltimore, and GEORGE R. LIVERMORE, Memphis, Tenn.
10. Abdominal Pain Due to Ureteral Obstruction and Its Treatment (Lantern Demonstration). A. J. CROWELL, Charlotte, N. C.

    Discussion to be opened by BRANSFORD LEWIS, St. Louis, and E. G. BALLENGER, Atlanta, Ga.
11. Ureteral Transplantation. Its Indications, Routes and an Experimental Study of Duodenal Reabsorption. FRANK HINMAN, San Francisco.

    Discussion to be opened by WILLIAM E. LOWER, Cleveland, and GEORGE G. SMITH, Boston.
12. Standard Kidney Operations, with Renal Function Studies: A Consideration of Reversible and Irreversible Metabolism in Dogs. H. W. PLAGGEMEYER and R. E. CUMMINGS, Detroit.

    Discussion to be opened by JOHN R. CAULK, St. Louis.
13. Surgical Indications with Fused (Horseshoe) Kidney. E. S. JUDD, WILLIAM F. BRAASCH and A. J. SCHOLL, Rochester, Minn.

    Discussion to be opened by HENRY G. BUGBEE, New York.
14. Urography as a Method of Diagnosis (Lantern Demonstration). J. H. MORRISSEY, New York.

    Discussion to be opened by O. S. LOWSLEY, New York.

Friday, May 26—2 p. m.

Election of Officers.

15. A Technic for Doing Perineal Prostatectomy (Lantern Demonstration). ARTHUR B. CECIL, Los Angeles.

    Discussion to be opened by HUGH H. YOUNG, Baltimore.
16. Spinal Anesthesia in Prostatectomy. ARTHUR L. CHUTE, Boston.

    Discussion to be opened by GEORGE G. SMITH, Boston.
17. Carcinoma of the Prostate. ROBERT H. HERBST and ALVIN THOMPSON, Chicago.

    Discussion to be opened by HENRY G. BUGBEE, New York.
18. The Tabetic Bladder—from the Standpoint of the Urologist. BUDD C. CORBUS and VINCENT J. O'CONOR, Chicago.

    Discussion to be opened by H. W. PLAGGEMEYER, Detroit.
19. Bladder Carcinoma. Statistics of Radium Removal versus Surgical Removal. BENJAMIN S. BARRINGER, New York.
20. Urology and the General Surgeon. CLINTON K. SMITH, Kansas City, Mo.

    Discussion to be opened by JOHN CAULK, St. Louis.
21. Prostatic Massage: A Practical and Theoretical Discussion. GEORGE F. FARNAM, Santa Barbara, Calif.

    Discussion to be opened by BRANSFORD LEWIS, St. Louis.

SECTION ON ORTHOPEDIC SURGERY

MEETS IN ST. LOUIS UNIVERSITY LAW SCHOOL AUDITORIUM

OFFICERS OF SECTION

Chairman—H. WINNETT ORR, Lincoln, Neb.
Vice Chairman—WILLIS C. CAMPBELL, Memphis, Tenn.
Secretary—H. B. THOMAS, Chicago.
Executive Committee—GEORGE W. HAWLEY, New York; MELVIN S. HENDERSON, Rochester, Minn.; H. WINNETT ORR, Lincoln, Neb.

Wednesday, May 24—2 p. m.

1. The Pathogenesis and Management of Certain Dyskinesias Irremediable by Operative or Prothetic Measures. TOM A. WILLIAMS, Washington, D. C.
2. An Apparatus for Fixation of Fractures of the Femur. Case Reports (Lantern Demonstration). CHARLES S. VENABLE, San Antonio, Texas.
3. Indication for Operation on Fractured Femur. FREDERICK C. KIDNER, Detroit.
4. Poor Functional Results in the Treatment of Fractures. WILLIAM O'NEILL SHERMAN, Pittsburgh.
5. Treatment of Industrial Accidents of the Knee. R. WALLACE BILLINGTON, Nashville, Tenn.
6. The Present State of Arthroplasties. WILLIAM S. BAER, Baltimore.
7. Teaching of the Fundamentals of Surgery from the Point of View of the Graduate School. LOUIS B. WILSON, Rochester, Minn.

Thursday, May 25—2 p. m.

8. The Results of Ankylosing Operations in Tuberculosis of the Spine (Lantern Demonstration). ARTHUR L. FISHER, San Francisco.
9. Bony Bridging in Tuberculosis of the Spine. ROBERT B. COFIELD, Cincinnati.
10. Chairman's Address: The Fundamental Principles of Orthopedic Reconstruction and Industrial Surgery; The Real Lessons of the Great War. H. WINNETT ORR, Lincoln, Neb.
11. Surgery of the Hand (Lantern Demonstration). ALLEN B. KANAVEL, Chicago.
12. Standardizing the End-Results in Traumatic Surgery. JOHN J. MOORHEAD, New York.
13. Bone Lesions of Twenty Different Conditions (Lantern Demonstration). STEWART L. MCCURDY, Pittsburgh.
14. The Application of the Stabilizing Operation to the Surgical Treatment of Paralytic Flatfoot. MICHAEL HOKE, Atlanta, Ga.

Friday, May 26—2 p. m.

Election of Officers.

15. A Report of the Year's Work on Crippled Children in Ohio. B. G. CHOLLETT, Toledo, Ohio.
16. Pseudohypertrophic Muscular Paralysis: Report of Twelve Cases. PHILIP LEWIN, Chicago.
17. Premature Infants: Conditions of the Nervous, Osseous and Muscular Systems Peculiar to Them (Lantern Demonstration). JULIUS H. HESS, Chicago.
18. Fractures of the Carpal Scaphoid. A. F. TYLER, Omaha.
19. The Importance of Prevention and Early Treatment in Disabilities Due to Injuries of the Lower Back. HAROLD R. CONN, Akron, Ohio.
20. Functional Aspects of Birth Injuries of the Central Nervous System. FRANK R. OBER and BRONSON CROTHERS, Boston.
21. After-Care of Infantile Paralysis. CHARLTON WALLACE, New York.
22. Remarks on the Treatment of Early Infantile Paralysis. HENRY O. FEISS, Cleveland.

SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY

MEETS IN MUSICIANS' HALL

OFFICERS OF SECTION

Chairman—H. W. SOPER, St. Louis.
Vice Chairman—J. RAWSON PENNINGTON, Chicago.
Secretary—FRANKLIN W. WHITE, Boston.
Executive Committee—FRANK SMITHIES, Chicago; LOUIS J. HIRSCHMAN, Detroit; H. W. SOPER, St. Louis.

Wednesday, May 24—2 p. m.

1. Chairman's Address. HORACE W. SOPER, St. Louis.
2. A Consideration of Chronic Appendicitis. JOHN A. LICHTY, Pittsburgh.
3. Enteroparesis. W. HOWARD BARBER, New York.
4. The Value of Entero-Antigens in Gastro-Intestinal Disorders. G. R. SATTERLEE, New York.
5. The Value of Temporary Colostomy. LOUIS J. HIRSCHMAN, Detroit.
6. Age and Site Incidence of Carcinoma of the Rectum and Pelvic Colon. J. RAWSON PENNINGTON, Chicago.

Thursday, May 25—2 p. m.

Election of Officers.

SYMPOSIUM ON PEPTIC ULCER

7. Gastroptosis: A Study of Five Hundred Cases. SEALE HARRIS, Birmingham, Ala.
8. New Methods of Studying Gastro-Intestinal Peristalsis. WALTER C. ALVAREZ, San Francisco.
9. The Value and Limitations of Roentgen-Ray Diagnosis in Digestive Diseases. E. H. GAITHER, Baltimore.
10. Achylia Gastrica. JOSEPH SAILER, Philadelphia.
11. Nonsurgical Quadrant Treatment of Internal Hemorrhoids and Prolapse of the Rectum. CHARLES AARON, Detroit.
12. A Suggested Classification for Anorectal Prolapse. COLLIER F. MARTIN, Philadelphia.

Friday, May 26—2 p. m.

JOINT MEETING OF THE SECTIONS ON SURGERY, GENERAL AND ABDOMINAL, AND ON GASTRO-ENTEROLOGY AND PATHOLOGY

13. The Relative Value of Medical and Surgical Treatment of Gastric and Duodenal Ulcer and the Indication for Each. ARTHUR DEAN BEVAN, Chicago.
14. The Relative Value of Medical and Surgical Treatment in Gastric and Duodenal Ulcer. BERTRAM W. SIPPY, Chicago.
15. Progress in the Handling of Peptic Ulcer. W. J. MAYO, Rochester, Minn.
16. The Relative Rôles of Medical and Surgical Treatment in Gastric and Duodenal Ulcer. THOMAS R. BROWN, Baltimore.

SECTION ON MISCELLANEOUS TOPICS

MEETS IN PARISH HOUSE, ST. PETER'S EPISCOPAL CHURCH

OFFICERS OF MEETING ON ANESTHESIA

Chairman—ISABELLA C. HERB, Chicago.
Vice Chairman—DAVID E. HOAG, Pueblo, Colo.
Secretary—F. H. MCMECHAN, Avon Lake, Ohio.

Wednesday, May 24—9 a. m.

1. Chairman's Address: Postoperative Lung Complications. ISABELLA C. HERB, Chicago.
2. Relation of the Anesthetic to Pulmonary Abscess Following Nose and Throat Surgery. CLINE N. CHIPMAN, Washington, D. C.
   Discussion to be opened by A. H. MILLER, Providence, R. I.; R. STUART ADAMS, San Antonio, Texas, and FRANCES E. HAINES, Chicago.
3. Clinical and Experimental Studies on the Cerebrospinal Tension in Relation to Surgical and Anesthetic Risk. HARRY JACKSON, Chicago.
   Discussion to be opened by E. I. MCKESSON, Toledo, Ohio, and F. H. MCMECHAN, Avon Lake, Ohio.
4. An Experimental Study of the Epinephrin Content of the Suprarenal Gland Under Anesthesia and in Shock. J. F. CORBETT, Minneapolis.
   Discussion to be opened by NETTIE KLEIN, Texarkana, Texas; ANSEL M. CAINE, New Orleans, and A. E. RIVES, East St. Louis, Ill.
5. Synergistic Analgesia: Clinical Observations. J. M. RECTOR, Jersey City, N. J.
   Discussion to be opened by J. T. GWATHMEY, New York, and THOMAS J. COLLIER, Atlanta, Ga.
6. The Effects of the Repeated Administration of Anesthetics on Blood Catalase. W. E. BURGE, Urbana, Ill.
   Discussion to be opened by DAVID E. HOAG, Pueblo, Colo., and MORRIS H. CLARK, Kansas City, Mo.

COMMERCIAL EXHIBITS

A PRACTICAL EDUCATIONAL FEATURE

In the good old days when the "ethical proprietary" was the principal feature of the commercial exhibit, the exhibitor who was most generous with his samples was usually most popular. Some firms would even attempt a more spiritual, if less ethical appeal by giving a handy bottle of spiritus frumenti.

But times change and so do customs. While business firms exhibit at the Convention now, as in the past, essentially to promote sales to physicians, their salesmanship is of a different quality. It is based on the more modern idea of service and helpfulness. Many a time the "salesman," in the exhibits as now conducted, is found to be a highly trained scientist, inventor or research student.

The visitor to Exhibit Hall this year will thus meet in one building a large group of experts or men specially trained in the various medical manufacturing lines; he will also find there perhaps the largest and most varied collection of articles for physicians' use assembled anywhere in one place. In addition he will have opportunity to actually inspect most of the new and important developments in the armamentarium of the profession. For example: a few hours spent in visiting the book publishers' exhibits will enable one to examine practically all of the new medical works and new editions that have been issued during the past year. Some exhibitors will even be prepared to give out advance pages of forthcoming works. In instruments and apparatus, important developments have been made and each exhibitor will prominently feature the new types which he is now prepared to furnish. Physicians can not only see these devices, but can secure much valuable information on their uses. The same may be said of pharmaceutical and biologic preparations. Many products recently accepted by the Council on Pharmacy and Chemistry will be on display and their uses and advantages explained. The X-ray exhibits also promise many new devices and improvements which, by saving time or money or by bringing better results, will make a strong appeal to the roentgenologist. In all there will be representatives from more than one hundred firms. The opportunity of meeting these men with so little effort and under such favorable circumstances makes it well worth while for every physician to *take the exhibits seriously*.

Visitors should not enter Exhibit Hall with the feeling that it is a sales room. It is rather a place for securing information and seeing demonstrations. Physicians may feel free to examine any objects in which they are interested without fear of being beguiled or coerced into making purchases.

Following is a list of firms that will exhibit, as well as a description of what a number of them will have to show. It is unfortunate that descriptions of all the exhibits were not secured, but enough are given here to indicate that it is well worth one's while to spend considerable time in Exhibit Hall. One should not attempt to view all the exhibits at a single visit. The hall will be open for visiting physicians from Monday noon to Friday noon. Regular daily opening hour will be 8 a. m.; closing 6 p. m. Frequent visits to Exhibit Hall will be time well spent; the exhibits will really have many educational features. Moolah Temple is also the General Headquarters for the Annual Session.

APPARATUS

W. A. Baum Co., Inc., 100 Fifth Avenue, New York. Physicians who have often been perplexed by blood pressure readings which could not be reconciled with the patient's other symptoms should not fail to visit Space 22. There will be shown the origin of many such inconsistencies and how to eliminate them. It will be well worth while to see this interesting demonstration and receive a free copy of a booklet on the subject, prepared by the American Institute of Medicine.

The Wilmot Castle exhibit will feature in Space 69 an electric sterilizer with a new automatic shutoff that has withstood over 500 tests for overheating. This new automatic heat control employs no fuse pin, neither is there any thermostatic metal. The current is broken while there is still water in the sterilizer, so that both instruments and the sterilizer are protected. Physicians will also find on display all the other models of Castle Sterilizers.

DeVilbiss Nose and Throat Sprays, as in the many years past, will be exhibited in an interesting and creditable manner. There will be a full showing of these well-known sprays, both for professional use and prescription purposes. And it goes without saying, that every doctor attending the St. Louis gathering will be cordially welcomed at the DeVilbiss Booth 136.

The Foregger Company will show in Space 111 new anesthetic appliances as designed by Drs. Rives, East St. Louis; Richardson, Boston; Oden-Foshee, Chicago and New York, and Sanford and Gwathmey, New York.

The Hanovia Chemical & Mfg. Co. will exhibit in Booths 150-155 two powerful, maximum producers of ultra-violet rays, the Kromayer and Alpine Sun Lamps, used as a modality in treating many different diseases. These lamps may be seen in actual operation during the exhibit, and it will be well worth one's time to see and hear what actually can be accomplished in using these lamps.

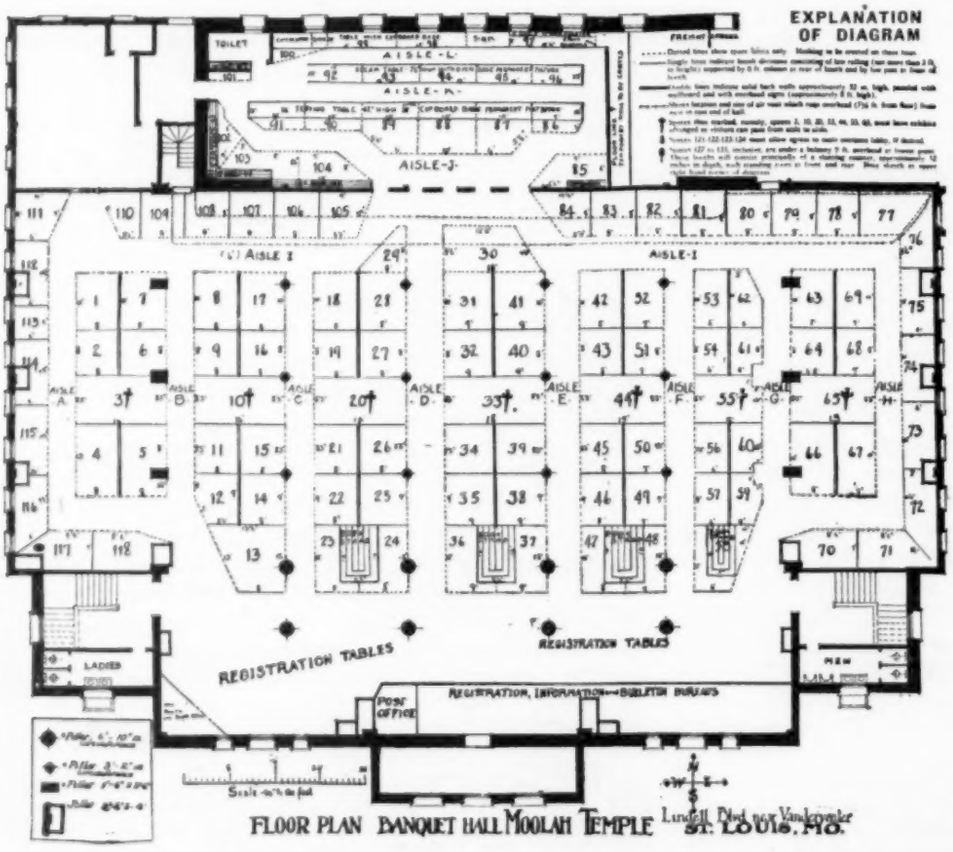
The exhibit of E. Leitz, Inc., in Booths 11 and 15 will include two new apparatuses, the Dr. MacKenzie Ink Polygraph, Dressler Modification and the Sphygmomanograph jointly developed by Messrs. Dressler & Leitz. The latter will be demonstrated by Mr. Dressler in person. The work of the Sphygmomanograph in showing the blood pressure on paper by ink will be clearly explained. Other apparatus of interest will be the new Leitz Combination Microscope A. D. M., a new blood counter, new series of research eyepieces and new oil immersion objectives.

The Lungmotor Company of Boston, in Space 61, will make a feature of ten-minute talks on resuscitation. These will be accompanied by appropriate lantern-slide views. Charts and statistics of lives saved through use of a Lungmotor and

an actual demonstration of the apparatus on sheep lungs will be given.

Middle West Laboratories Company's exhibit will feature the Metabolimeter and accessories for making basal metabolic rate determinations. Demonstrations will be made on normal subjects whose rate of metabolism is a known constant, and the complete test followed through to the final result to show that normal subjects actually register normal rates by the Metabolimeter. Each visitor will be shown just how the test is made without calculation of any kind, and how barometric corrections are made automatically by the instrument itself. The completed test requires less than five minutes' time. Space 14.

The Sanborn Company, Spaces 12 and 13, will have qualified technicians on hand to demonstrate the latest technic in determining the basal metabolic rate with the Sanborn Benedict and the Sanborn Handy Metabolism Apparatus. The Metabolor with its new device for the estimation of the respiration per minute, that is, the minute volume as well as vital capacity and basal metabolism. A full line of McKesson Anesthetic Appliances will also be found here at Booth 43.



FLOOR PLAN BANQUET HALL MOOLAH TEMPLE ST. LOUIS, MO.

Sanborn Pulse Wave Recorder, a convenient, well-functioning polygraph of American manufacture, will make actual tracings from the brachial artery and the jugular vein of a variety of subjects. Interested physicians will be given opportunity to operate the instrument. The well-known Sanborn Blood Pressure Outfit will also be demonstrated, as well as the Sanborn Vital Capacity Spirometer.

C. M. Sorenson Co., Inc., will show in Booths 53 and 54 the Bailey outfit for basal metabolism estimations complete in all its details. The method employed in the use of this apparatus is the gasometer or open circuit type, and no doubt will greatly appeal to the scientific and research man as well as to the clinician. The new booklet, featuring complete outfits for the chemical analysis of blood, urine and gastric contents, will also be ready for distribution from this booth.

Toledo Technical Appliance Co. of Toledo, Ohio, showing McKesson Anesthetic and other appliances, will feature a device for oxygen administration in pneumonia, arthritis, tuberculosis, etc., which will be of special interest to the internist and general physician. They will also show the

BOOKS

The American Institute of Medicine, Inc., Space 27, has perfected an international organization which abstracts the original articles appearing in all the important medical periodicals of the world. These abstracts are translated and gathered into sections, each of which covers a special field in medicine, and is supplied monthly to the members of the Institute. The service will be clearly explained by competent representatives.

D. Appleton & Company's exhibit will be seen in Space 3. They will show new editions, some of them entirely reset, of many standard medical publications. They will also display a number of new things, among which their series of Gynecological and Obstetrical Monographs will be a prominent feature. Of the greatest interest and importance is the new clinical presentation of Endocrinology and Metabolism, edited by Drs. Llewellys F. Barker, R. J. Hoskins and Herman O. Mosenthal.

P. Blakiston's Son & Company, Publishers, will occupy Space 50. Among their new books and new editions to be shown are: Schaeffer, Nose, Paranasal Sinuses, Nasolacrimal Passageways and Olfactory Organ in Man; Morris, Human Anatomy, Sixth Edition, edited by Jackson; Berkely & Bonney, Difficulties and Emergencies of Obstetric Practice, Third Edition; Binnie, Operative Surgery, Eighth Edition; Deaver and Ashhurst, Surgery of the Upper Abdomen, Second Edition; Stoddard, Mind and Its Disorders; and Collis and Greenwood, Health of Industrial Worker.

Chicago Medical Book Company, Space 23, will exhibit a complete assortment of the latest American and English Medical Books of all publishers, in all branches of medicine and surgery. Here, too, in one exhibit, will be found a very complete collection of the new medical monographs. Many special volumes will be shown. This exhibit will be directly opposite the registration tables.

F. A. Davis Company, Booth 38, will have as outstanding features Martinet's Clinical Diagnosis in two volumes, a very complete and fundamentally important work; Fischer's new work on pediatrics, "Diseases of Infancy and Childhood," now in two volumes; Bassler's extensive work covering the whole digestive system, newly and carefully revised; Faught's "Essentials of Laboratory Diagnosis," thoroughly revised. Another carefully revised edition—the tenth—of Sajous' work on The Internal Secretions is also to be seen.

The Hospital Social Service Magazine, occupying table space on the auditorium floor, will be represented by N. F. Cummings, R.N. Physicians interested in the broader aspect of community service and hospital extension movement will find it well worth while to stop here and learn something of the purposes and work of this magazine.

Lea & Febiger, in Space 36, will feature a number of new editions and entirely new works. Among the latter are Volume IV of Ochsner's "Surgical Diagnosis and Treatment"; Cummer's "Clinical Diagnosis"; Scheppegrell's "Hay Fever"; McFarland's "Pathological Anatomy"; Thom's "Syphilis"; Vaughan's "Minor Surgery"; Hawes' "Tuberculosis"; Craig's "Nervous Exhaustion"; Tallant's "Obstetrical Nursing." New editions to be featured are Hare's "Therapeutics"; Crotti's "Thyroid and Thymus" and Wharton's "Minor Surgery."

J. B. Lippincott will have a special exhibit in Booths 71 and 72. A full line of practical medical, surgical, chemical and pharmaceutical and nursing books will be presented. In addition, there will be a display of the well-known Piersol Anatomical Charts, showing every muscle, nerve, vein and artery with beautiful accuracy. New works on pediatrics, the endocrines, tuberculosis, surgery and internal medicine will be on display.

The Macmillan Company's exhibit of books in Booth 105 will be characterized briefly by breadth and scope as to subject matter and emphasis on monographs rather than bulky systems of medicine. Adherents of protein therapy will find its doctrines championed in Peterson's new book, while endocrinologists will welcome Berman's synthesis of the material in their field. These are but two of the many subjects to be featured. Visit Booth 105.

L. S. Matthews & Co., St. Louis, will have on display the newest works of the various medical publishers. They will also show many curious and rare volumes, long out of print: for example, Beaumont, Frost, MacEuen, Englemann, Ireland, Haabs, Mueller. They will feature a number of special bargains in reference sets. Space 6.

The C. V. Mosby Company, Space 58, Publishers of Medical, Surgical, Nursing and Dental Books and Journals, will show their complete line of standard books. Among the new books shown will be Simpson on Radium Therapy; Potter on Version; Porter and Carter on Management of Sick Infant; Fitzgerald on Preventive Medicine; Hertzler on Goiter; Beck on Pathology of Nose, Throat and Ear Diseases, and Haden on Laboratory Methods. A new edition by Pottenger on Symptoms of Visceral Disease will be featured. A large staff of representatives will be present.

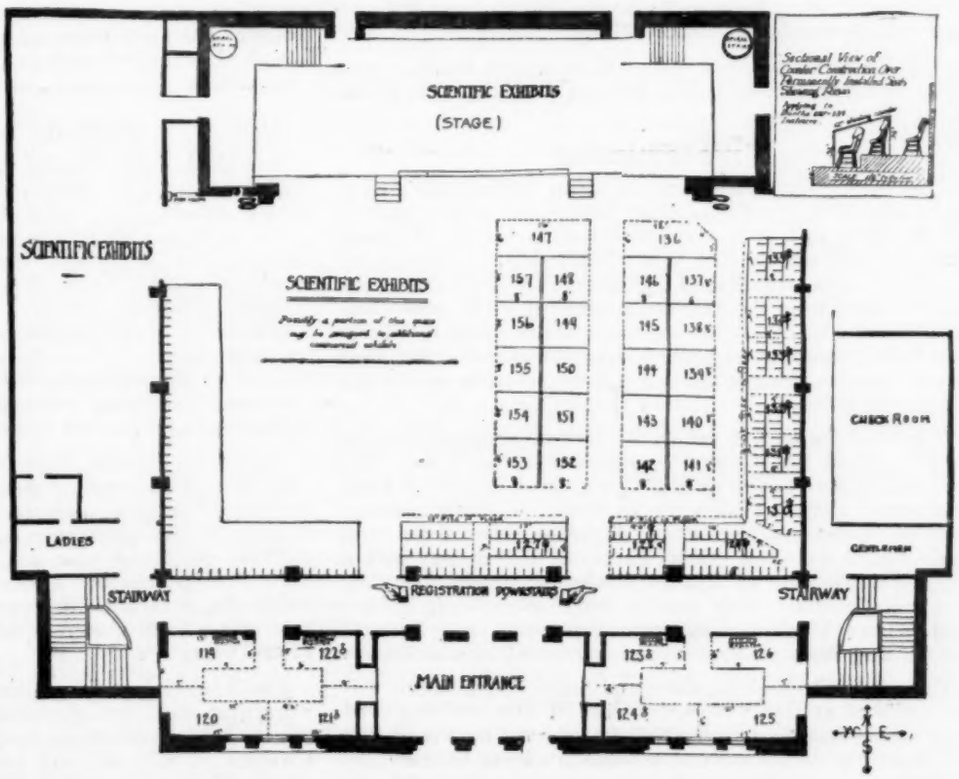
The W. F. Prior Company, Inc., Hagerstown, Md., will exhibit in Booth 24 their ten-volume set of Tice's Practice of Medicine in such a way as to illustrate the scope and efficiency of their supplementary Prior Service Unit which includes: (1) The International Medical Digest; (2) the Research Service, and (3) the new pages which keep Tice up to date. A complete representation of Tice and the Prior Unit Service Unit will be on display for the inspection of visiting physicians.

W. B. Saunders, Booths 47 and 48, will exhibit new books and new editions, including Stookey's Surgical and Mechanical Treatment of Peripheral Nerves; the current issues of the Surgical Clinics of North America and the Medical Clinics of North America; the Thyroid Gland by George W. Crile and his associates; a Clinical Medicine by Lewellys F. Barker; the first volume of Abt's Pediatrics; Einhorn's Lectures on Dietetics; Stevens' Comprehensive Practice of Medicine; Thomas' The Successful Physician; new edition of Scudder's Treatment of Fractures, and others. In addition, there will be advance sheets of a number of publications actively preparing.

William Wood & Company of New York will have in Space 39 an attractive assortment of new books. Physicians will be interested to talk with representatives here regarding prices on the Wood books, which are said to be less than 25 per cent. greater than those of 1914. Visitors should feel free to ask for latest information regarding books on their special subjects of interest. Time here can be very profitably spent.

FOODS AND BEVERAGES

Apollinaris Agency Company, 503 Fifth Avenue, New York, will exhibit in Space 21 Apollinaris, a mild alkaline-acidulated table water bottled only with its own natural gas; and "Apenta," natural aperient water.



The Borcherdt Malt Extract Co.'s exhibit will occupy Space 62. Malt Soup, prepared according to the Keller formula, will be exhibited; also Malt Sugar and the two new Borcherdt Malt Products, Malt Cod Liver Oil and Phosphorus, and Malt Cod Liver Oil and Iron Iodide. Physicians are cordially invited to see these products and learn their manufacture in detail.

The Horlick's Malted Milk Company, Racine, Wis., will occupy Spaces 59 and 60. The long and favorably known "Horlick's" products will be interestingly featured. The "X-Ray" advantages of "Horlick's," the Original Malted Milk, will be in evidence, as well as special literature for the physician.

Mead Johnson & Company will exhibit their full line of infant diet materials in Booths 16 and 17. The representatives will be glad to demonstrate diets for well children, for children who do not gain, for babies with diarrhea, for marasmic infants, for constipated infants and other types of difficult feeding encountered in practice. Each physician will be presented with a handsome Index Box containing "Corrective Diets" for infants, and literature describing various infant feeding materials to suit the food requirements of individual

infants. The aim is to make this demonstration truly educational and helpful.

Mellin's Food Company, Spaces 142 and 143. No argument is needed to emphasize the advantage to the physician of a thorough knowledge of any product that he deems worthy of frequent or only occasional use in the work of his profession, and representatives of this company will make a special effort to bring out clearly everything that has a bearing upon the source, nature and amount of the nutritive elements present in Mellin's Food in order that physicians who are not perfectly familiar with Mellin's Food may have an opportunity to acquire this information.

Merrell-Soule Sales Corporation will have on exhibit Klim Brand Powdered Milk and Merrell-Soule Powdered Protein Milk. Klim Brand Powdered Milk will be served, the method being to mix it up in small quantities to show how readily it goes into solution. Every means will be used in enabling visiting physicians to ascertain its natural taste and its perfect solubility. Opportunity will also be given to sample Powdered Protein Milk, and scientific literature on the subject will be available. Space 87.

The Welch Grape Juice folks will be present again. Space 109. Steady, please—the lines form on the right. The drinks are free, of course.

INSTRUMENTS

The A. S. Aloe Company of St. Louis will exhibit a complete line of surgical apparatus, instruments and specialties in Booths 56 and 57, near the Registration Tables. Featured in the exhibit will be their new Portable Electro-Therapeutic Cabinet; also a large line of high quality surgical instruments just received from their buyer in Germany. The Aloe Company invites all A. M. A. members, while in St. Louis, to make their headquarters at their store and offices at 513 Olive Street, where writing rooms and free stenographic service will be provided.

The Bard-Parker Company will introduce at Booth 55 at the meeting a new model blade for their well-known knife. This new blade, to be known as No. 23, will be of interest to those who prefer a linear blade knife, or who have wanted a sharp-pointed, lancet type blade for dissection, one larger than their No. 11 Bistoury. C. R. Bard will also display here a very complete line of Eynard Urological goods, including Ureteral Catheters, both regular and X-Ray; Soft Rubber and Woven Urethral Catheters; Suprapubic and Perineal Drains and Bougies; also several interesting specialties.

Cameron's Electro-Diagnostic and Surgical Specialties will be exhibited at Booth 70. A number of new and improved instruments developed during the past year will have their first demonstration to the general profession during the meeting. Among the specialties to be demonstrated are Cameron's Electro-Cautery for major surgery; Cameron's Surgiroll; Cameron's Surgilites, and Cameron's improved Electro Diagnostoset.

F. A. Hardy & Company of Chicago will exhibit in Space 33 a full line of eye, ear, nose and throat surgical instruments, ophthalmological equipment, office furniture and compressed air outfits. The Hardy Company extends a cordial invitation to those attending the meeting to visit Space 33 and inspect the Hardy line.

The Kloman Instrument Company of Washington will exhibit several new instruments at St. Louis. Chief among them will be a new ophthalmic bracket which must be seen to be appreciated. Their exhibit will be attended by Mr. W. C. Kloman and Mr. Thomas Schweinhart in Space 44.

At Booth 73, the MacGregor Instrument Company will demonstrate Dr. Dunn's apparatus for local anesthesia in major surgery. As the trend of the times is toward local anesthesia, and as the Dunn apparatus is inexpensive and has proved very efficient, this exhibit will be of much practical value. Other interesting devices displayed will be the Alder Automatic Two-Way Valve for Intravenous Injections and the Vim Schick outfit.

E. B. Meyrowitz, Incorporated, will have something of pertinent interest to the physician who is obliged or prefers to remove tonsils and adenoids without assistants—the Wolf Mouth Gag and Tongue Depressor. See demonstration of this instrument in Spaces 1 and 2. General practitioners as well as specialists will find it worth while to visit this exhibit.

V. Mueller & Company, Chicago, will occupy Spaces 115-116-117-118. This firm always has an interesting exhibit of surgical instruments and equipment, but never before have so many new items been developed by them for American surgeons as during the past year. These new instruments, as well as many standard types, will be exhibited. Of particular interest are Shahan's Operating Lamp, a number of new laryngeal and esophageal instruments, and the Lewis Turnbuckle.

William A. Phillips Company's exhibit will show John R. Caulk's prostatic punch; Bransford Lewis' urological instruments; cautery heaters and instruments; nerve blocking local anesthesia detector by electric current; J. J. Singer's lung-testing apparatus; universal head lamp; also condenser using standard lamps; portable ear, nose and throat battery-lighted instruments which can be carried in a satchel. Space 91.

OPTICAL INSTRUMENTS

Bausch & Lomb Optical Company of Rochester, N. Y., will have on display their complete line of ophthalmic instruments, including the Visual Acuity Test Apparatus, the Precision and Simplified Ophthalmic Test Frames, Ophthalmic Test Lenses, Gullstrand Ophthalmoscope, Corneal Microscope with Slit Lamp Attachment, Interpupillary Gauge, Prentice Phoria Indicator, Binocular Magnifier, Stereo Campimeter, Exophthalmometer and Keratometer. Microscopical equipment is to be represented by model FFS, for the use of the physician; the Dark-Ground Illuminator and the new Convertible Substage Lamp for use in dark-field microscopy and also oil immersion work. Space 144-145.

Harold M. Bennett, New York City, American agent for Carl Zeiss instruments, will exhibit in Booths 140-141. The exhibit will include: a representative line of the Zeiss microscopes; photomicrographic equipment which operates with hitherto unattained ease and precision; new and improved dark field equipment; a new system of operating lamps; irradiating apparatus for gynecologists and for treatment of tuberculosis, and numerous new instruments for microscopy of the living eye.

Woolf Instrument Corporation, Booth 20, will show a model refracting room for specialists. This will include several pieces of steel equipment, four distinct models of Trial Lens Cabinets; a new all-steel specialist's chair with head-rest adjusted by clamping of a lever. They will also show new models in test leather cabinets having acid-etched letters which are illuminated with unusual brilliancy.

ORTHOPEDIC APPLIANCES

Carnes Artificial Limb Co. will give practical demonstrations in Booth 7 of the usefulness and natural appearance of the Carnes Arm, as shown by men wearing the arm, and doing the things other people do every day. One of the Carnes traveling salesmen, wearing two Carnes Arms, will show how easily he takes care of himself on the road, in the office or at home; how he writes, ties his cravat and handles his work generally.

The Ambulatory Pneumatic Splint Mfg. Co., Chicago, will demonstrate in Space 114 the scientific, practical values of the Ambulatory Pneumatic Splint for the closed or open reduction of fractures of the hip, femur, knee, leg, ankle and the treatment of hip and knee joint disease. This is an air-cushioned splint and provides comfort, safety and freedom of movement both in and out of bed. This company will also demonstrate their "Ambumatic" Washable Abdominal Supporters and Adjustable Binders and other surgical and orthopedic specialties of direct interest to the practitioner and specialist.

PHARMACEUTICALS

In the exhibit of The Abbott Laboratories in the Scientific Section you will find shown their latest synthetic medicinal chemicals, including Butyn, the new local anesthetic, Acriflavine, Cinchophen, Neo-Cinchophen, Argyn, Barbital, Procaine and other Council passed products of the Abbott Laboratories. Your interest in this exhibit will indicate your preference for American named and manufactured medicinal chemicals, for the American medical profession. Space 127.

P. Astier Laboratories, Paris, France, will occupy Space 52 and exhibit their Arheol, a pure oil of Santal preparation, and Riodine, an iodized compound of ricinoleic acid, which in suitable cases has the advantage of practical freedom from iodism and a slow and even absorption and elimination of the iodine. Mr. Albert Thouin, with assistants, will receive visitors and supply samples and literature.

B. B. Culture Laboratory, Inc., Yonkers, N. Y., Space 32. This laboratory as a specialist in this work has kept fully abreast of the advances in both means and methods in the field of lactic cultures. At St. Louis the various uses of B. B. Culture will be suggested for consideration and new forms of issue will be shown. The pediatrician and general practitioner will find this exhibit of unusual interest.

H. A. Metz Laboratories will exhibit their Salvarsans, Novocain and Pyramidon in Space 24. Physicians skilled in the use of these drugs will be present to explain the various methods of preparation and administration, and visiting physicians will be afforded the most ample opportunity for getting new ideas on the use of these products. In addition, the Laboratories will exhibit Albargin, antigonorrheic; Amphotropin, urinary antiseptic; Anaesthesin and Orthoform, anesthetics for use on abraded surfaces, and L-Suprarenin Synthetic, vasoconstrictor.

E. R. Squibb & Sons will occupy Spaces 147-148 and 157, facing the Scientific Exhibit. The manufacture of Arsphenamine is to be shown in a graphic way, from the crude material to its present high form of development—Solution of Arsphenamine-Squibb. The production of Thyroxin is also shown graphically, beginning with the thyroid glands as taken from the animal, and ending with the tiny crystal of Thyroxin representing the therapeutic activity of this gland. They will also show the later development of the Allergens.

Upsher Smith (Digitalis), Inc., Minneapolis, Minn., will exhibit photographs and specimens illustrating the careful method of cultivating Digitalis at Fox Glove Farm. Physicians will have the opportunity of seeing growing plants of several varieties of Digitalis, including Digitalis lutea, and those who desire specimens of "Upsher Smith" Digitalis products for clinical trial should register at Space 156.

The Wilson Laboratories, Booth 28, will have an instructive exhibit of the various animal glands and methods of preparing them for medicinal purposes. Representatives will be present to explain and demonstrate as fully as possible the manufacture of the various glandular derivatives.

RADIUM

The W. L. Cummings Chemical Company of Philadelphia, Pa., will exhibit and demonstrate a number of new and improved Radium Applicators for the treatment of malignant conditions of the uterus and rectum, together with their Patented Detachable Point Needle Applicators. This company will also have on exhibit a tube of Pure Radium Salt refined from U. S. carnotite. Space 78.

The Radium Chemical Company of Pittsburgh will have technical experts in attendance who will be glad to explain new instruments designed during the past year for handling radium and to discuss new ideas on technique. Radium workers and prospective purchasers can secure much practical information on radium methods in this exhibit. Spaces 123-124.

The United States Radium Corporation will exhibit in Space 120. Among the noteworthy developments during the past year are the very small platinum needles to contain radium element. Dr. Victor F. Hess, formerly of the Vienna Radium Institute, now head of the Physical Research Department of the United States Radium Corporation, will be at their exhibit during the convention, and will be very glad to talk with any members of the profession regarding the physics of radium.

X-RAY

George W. Brady Company will exhibit in Space 51 the new model Potter Bucky Diaphragm with electric signal attachment. It has been developed as an aid in radiographing kidneys, spine or pelvis. They will also exhibit a novel Portable Bedside X-Ray Apparatus that can be attached to any electric light socket; also a wide line of desirable x-ray accessories. There will also be a collection of interesting radiographs.

The Eastman Kodak Company, medical division, will have an exhibit consisting of two displays—one showing the present standardized photographic material and accessories developed for x-ray use, and the other showing the possibilities of photography as an aid in clinical records. The x-ray exhibit will consist mainly of a number of pathologically interesting negatives made on Dupli-Tized X-Ray Films. A simple photographic unit comprising camera and illuminating flood-lights for clinical photography will be one of the features of the exhibit. Spaces 75-76.

The Engeln Electric Company of Cleveland, Booth 153, will exhibit the new Engeln Protective X-Ray Combination—"a real X-Ray Unit." The Bucky, Table and Tube Stand are combined into one unit for easy operation.—New and interesting accessories will also be on display here.

The High Tension Transformer and Equipment Co., will demonstrate "The Intermediate X-Ray Unit." This machine is a mobile unit claimed to be of sufficient capacity for applying all the usual x-ray therapy at the bedside. The newly developed Electro-Scalpel will also be displayed here. This device makes a clean incision not by pressure as with the ordinary scalpel but by means of a specially attuned oscillatory current which divides the tissues ahead of the blade. A unique instrument worthy of careful investigation. Space 68.

The International X-Ray Corporation, Space 67, will exhibit their new Precision X-Ray Apparatus which is designed for constant rectification without the production of corona, by using the sphere theory and incorporating the highest grade of mechanical construction. This apparatus is especially adapted for all classes of x-ray work, including radiography, fluoroscopy, stereoscopy and deep therapy.

Liebel-Flarsheim Company will exhibit in Spaces 88-89 a model of a complete x-ray installation. In addition they will show the new model F Dynelectron which gives practically all of the physiotherapy modalities used today in one single popular priced cabinet, including electrocoagulation, diathermy, oudin current for vacuum electrodes, auto condensation, tankless compressed air for spray atomizers, etc., and suction and vibra massage.

Standard X-Ray Co. exhibit, Spaces 121 and 122, will feature x-ray equipment of new and novel design, never before shown. The exhibit will include combination tilt table, rigid and sturdy, tilting both ways, an easily accessible Trendelenberg position, and an angular tube head with stereoscopic shift and opaque lead glass shield for horizontal and vertical stereoscopy. Also a wall-mounted "Type D" transformer with self-starting motor, and a remote control on which is mounted auto transformer and Coolidge tube control. Mr. Wm. G. Hettich will be in personal charge.

The Victor X-Ray Corporation, Spaces 30-31, will offer opportunity to personally inspect the new Deep Therapy Outfit, now in use in a number of laboratories throughout the country; the Potter Bucky Diaphragm Table, a distinct convenience in radiographic work where the diaphragm is used; the new Model 9 Roentgen Table; and the new Stabilized Radiographic and Fluoroscopic Unit. The new Victor Film will prove of universal interest.

The Wappler Electric Company, Spaces 125-126, will show a new development—the Wappler Composite X-Ray Unit. This is a complete x-ray plant capable of horizontal and vertical fluoroscopy and radiography. It requires but a very small amount of floor space and is reasonably priced. The exhibit will also include the Wappler Portable Teletherm and the Excel High Frequency Machine as well as electrically lighted diagnostic instruments.

MISCELLANEOUS

The Illinois Post Graduate Medical School will have representatives at Booth 108. As this institution has been one of the pioneers in making Chicago an important medical center, convention visitors can profit by learning of the facilities it offers in the way of individual instruction and actual work under personal supervision of its staff.

The Laboratory of Surgical Technique of Chicago, Booth 113, will give full information concerning its courses in Surgical Technique. Dr. Emmet A. Printy will be present to answer questions concerning the nature of the work and to assist prospective students in arranging for special courses. Lantern slides will demonstrate various phases of technique. Each visitor will receive interesting literature concerning teaching plan, operations covered in the course, etc.

The A. E. Little Shoe Co. of New York City will exhibit in Space 139. The A. E. Little Shoe will doubtless appeal to every physician interested in foot hygiene. It was developed in collaboration with eminent orthopedic surgeons, but is in appearance a smart, stylish piece of footwear quite in keeping with the demands of the man or woman of today. Skilled shoe men will be present to explain the advantages of the Little Shoe, and how it overcomes the usual objections to sensible footwear.

The representatives of the Medical Protective Company of Fort Wayne will be on hand to explain the service which this company renders to the practitioner of medicine. No doubt many physicians have not had an opportunity to inspect the protective policy issued by this firm nor to become acquainted with the details of this form of protection. Here will be an opportunity to talk personally with representatives and to get complete information on this specialized service. Space 128.

The Thoro Corporation cordially invite all conventionists to Space 100 whenever they feel the urge to "wash up." Ample supplies of Thoro Skin Cleanser, running water and individual towels will be available. Mr. Wolters, president of the Thoro Corporation, and assistants will be on hand to explain the bland cleansing action of Thoro and its special usefulness to physicians and surgeons.

Vanta Baby Garments, Space 110, will have their tenth annual appearance at the convention this year. Without mother demand—merely depending upon the approval of physicians, nurses and hospitals—this business has developed to the point that it would require 450,000 mothers, each purchasing three of these garments each year, to take the product of the factory. The Vanta Garments dress the baby complete without a pin or button, without turning the child once to put on a complete outfit. Be sure to see this exhibit and have the attending nurse send our Gift Box to some of your patients.

Wallace's Linen Mesh Underwear—a fabric of linen thread knit by special machinery, and providing in addition to the natural cellular structures of the flax fiber, myriads of artificial air cells will be exhibited in Space 138. Physicians will have here an opportunity to inspect all the various style shirts, drawers and unionsuits made of this special fabric.

List of Exhibitors

Name—	Aisle and Space No.
Abbott Laboratories, Chicago	Audit. 127-127A
Acme X-Ray Co., Chicago	G 65-66
Aloe Co., A. S., St. Louis	F 56-57
Allison Co., W. D., Indianapolis	I 82
Amb. Pneu. Sp. Mfg. Co., Chicago	A 114
Amer. Inst. of Med., N. Y.	D 27
Anatomik Footwear Co., N. Y.	Audit. 134
Apollinaris Agency Co., N. Y.	C 21
Appleton & Co., D., N. Y.	B East half 3
Armour & Company, Chicago	F 49
Astier Lab., P., N. Y.	F 52
Bard-Parker Co., N. Y.	F-G 55
Baum Co., W. A., Inc., N. Y.	C 22
Bausch & Lomb, Rochester, N.Y.	Audit. 144-155
B.B. Culture Lab., Inc., Yonkers, N. Y.	D 32
Becton-Dickinson, Rutherford, N.J.	Aud. 137-146
Bennett, Harold M., N. Y.	Audit. 140-141
Berger Bros. Co., The, New Haven, Conn.	D 35
Bethlehem Lab., Inc., Pittsburgh	I 80
Betz Co., Frank S., Hammond, Ind.	C 18-19
Blakiston's Son & Co., P., Philadelphia	F 50
Borcherdt Malt Extract Co., Chicago	G 62
Brady & Co., Geo. W., Chicago	F 51
Buck-X-Ograph Co., St. Louis	B-W ½ 110
Cameron's Surgical Spec. Co., Chicago	G 70
Carnes Artif'l Limb Co., Kansas City, Mo.	B 7
Castle Co., Wilmot, Rochester, N. Y.	H 69
Chicago Medical Book Co., Chicago	C 23
Collins, Warren E., Boston	Auditorium 119
Cummings Chemical Co., Philadelphia	I 78
Davis Co., F. A., Philadelphia	E 38
DeVilbiss Mfg. Co., The, Toledo.	Audit. W ½ 136
Dry Milk Co., The, New York	A 112
Earnshaw Knitting Co., Chicago	I 110
Eastman Kodak Co., Rochester, N. Y.	H 75-76
Electro Surg. Inst. Co., Rochester, N. Y.	I 84
Elmer, H. N., Chicago	Audit. E ½ 119
Engeln Electric Co., Cleveland	Audit. 153
Fischer & Co., H. G., Chicago	D 26
Foregger Co., Inc., The, New York	A 111
Guerber & Co., F.S., White Plains, N.Y.	H So. ½ 74
Hanovia Ch. & Mf. Co., Newark, N.J.	Aud. 150-153
Hardy & Co., F. A., Chicago	D-E 33
Harris Laboratories, Tuckahoe, N. Y.	J 90
High Tension Tr. & Eq. Co., Hoboken, N.J.	H 68
Hindle, Charles F., Ossining, N. Y.	I 81
Hoeber, Paul B., New York	E 37
Horlick's Malted Milk Co., Racine Wis.	G 59-60
Hospital Social Service, N. York.	Table sp. Audit.
Hynson, Westcott & Dunning, Baltimore.	E 45-46
Illinois Post-Grad. Med. Sch., Chicago	I 108
International X-Ray Corp., New York	H 67
Jaeckh Mfg. Co., Cincinnati	Audit. S. half 156
Johnson & Co., Mead, Evansville, Ind.	C 16-17
Kansas City Oxyg. Gas Co., K. C., Mo.	Audit. 130
Kelley-Koett Mfg. Co., Covington.	Audit. 151-154
Kloman Instrument Co., Washington, D.C.	E-F 44
Kolynos Co., The, New Haven, Conn.	E 40-41
Laboratory Products Co., Cleveland	I 107
Lab. of Surgical Technique, Chicago	A 113
Lea & Febiger, Philadelphia	D 36
Leitz, Inc., E., New York	B-C 11-15
Liebel-Flarsheim Co., The, Cincinnati	J 88-89
Linen Underwear Co., Greenwich, N.Y.	Aud. 138
Lippincott Co., J. B., Philadelphia	H 71-72
A. E. Little Co., Lynn, Mass.	Audit. 139
Lungmotor Company, Boston	G 61
MacGregor Inst. Co., Boston	H 73
Macmillan Company, The, New York	I 105
Maltbie Chem. Co., The, Newark, N.J.	Aud. 152
Maltine Co., The, Brooklyn, N. Y.	E 42
Massillon Rubber Co., Massillon, O.	K 98
Matthews & Co., L. S., St. Louis	B 6
McIntosh Elec. Corp., Chicago	G 64
Med. Protective Co., Ft. Wayne.	Audit. W. ½ 128
Mellin's Food Co., Boston	Audit. 142-143
Merrell-Soule Sales Corp., Syracuse, N.Y.	J 87
Metz Labs., Inc., H. A., New York	D 34
Meyrowitz, Inc., E. B., New York	A 1-2
Midwest Train. Sch., St. Louis.	Audit. E ½ 128
Middlewest Laboratories, Chicago	C 14
Mosby Co., The C. V., St. Louis	F-G 58
Mueller & Co., V., Chicago	A 115-116-117-118
National X-Ray Screen Co., Chicago	I 77
Nelson & Sons, Thos., New York City	I 106
Nystrom & Co., A. J., Chicago.	Audit. Table Sp.
Oxford University Press, New York	I 83
Patterson Screen Co., The, Towanda, Pa.	G 63
Pelton & Crane Co., The, Detroit.	A West half 3
Pierce Co., Harvey R., Philadelphia	I 79
Phillips Co., William A., St. Louis	J 91
Prior Co., W. F., Hagerstown, Md	D 24
Radium Chem. Co., Pittsburgh	Audit. 123-124
Radium Co. of Colorado, Inc., Denver.	A-B 4-5
Rebman Co., New York	J 86
Safety Anaesthesia Appar. Co., Chicago	H 74
Sanborn Company, Boston	B 12-13
Saunders Co., W. B., Philadelphia	E-F 47-48
St. Louis Med. Soc. Bul., Chicago	Audit. 131
Siebrandt Mfg. Co., J. S., Kansas City, Mo.	J 104
Smith, Inc., Upsher, Minneapolis.	Aud. 156 N. ½
Sorensen Co., Inc., C. M., New York	F 53-54
Spencer Lens Co., Buffalo, N. Y.	Audit. 135
Squibb & Sons, E. R., N. Y.	Audit. 147-148-157
Standard X-Ray Co., Chicago	Audit. 121-122
Sweetbriar Laboratories, Pittsburgh.	Audit. 132
Taylor Instrument Cos., Rochester, N. Y.	B 8-9
Thompson Plaster Co., Leesburg, Va.	D 25
Thoro Corporation, The, Chicago	L 100
Toledo Technical Appliance Co., Toledo	E 43
U. S. Radium Corp., New York	Audit. 120
Victor X-Ray Corp., Chgo.	C-D E ½ 10 & 30-31
Wappler Elec. Co., Long Isl., N.Y.	Audit. 125-126
Weissfeld Bros., New York	K 92
Welch Grape Juice Co., The, Westfield, N.Y.	I 109
Willard Laboratory, Greensboro, N. C.	L 97
Wilson Laboratories, The, Chicago	D 28
Wood & Co., Wm., New York	E 39
Woolf Istrument Co., New York	C-D 20
Yawman & Erbe, Rochester, N. Y.	Audit. 149
Year Book Publishers, Chicago	D 29